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HOST-PARASITE RELATIONSHIPS OF CERTAIN INTESTINAL PROTOZOA IMPORTANT TO MEDICAL ZOOLOGY*

JOHN F. KESSEL, PH.D.
LOS ANGELES

In the development of our knowledge concerning the intestinal protozoa of man and of the domestic and laboratory animals which are commonly associated with him, two tendencies in considering relationships between host and parasite have been apparent.

The first was a natural outgrowth of the inadequate morphologic differentiation of parasites which existed in the earlier work and often resulted in failure to separate closely related species though they appeared in different hosts. This failure led to a tendency which ascribed a promiscuity of relationship between a wide range of hosts and parasites. Much of the experimental work presented in support of this hypothesis failed to take into consideration the previously existing natural infections of the animals employed and was commonly performed without proper controls.

With the separation of species on a basis of morphologic differences, and with the accumulation of evidence concerning certain rigid host-parasite relationships that exist among some of the protozoa which inhabit the blood stream and among certain of the helminths, the second tendency, which assumes that host-parasite relationships among the intestinal protozoa are quite rigid, has developed. An example is seen in the dysentery ameba of the monkey, which ameba has been given no less than six different species names, these being described on the basis of the species of monkey in which the parasites were first found. Intestinal protozoa from other mammals have also been named on the basis of host habitat alone without the least consideration of experimental evidence and often when morphologic differences have not been apparent.

Conclusions concerning the existence of rigid host-parasite relationships have often been based on evidence from two or three negative cases, it being quite exceptional when a larger series than ten animals has been used; e. g., the experiments of Hogue,[1] on which Brumpt[2] lays so much emphasis in accepting *Trichomonas felis* as an authentic species, involved the use of only seven kittens. Results from so small a series of negative cases, while of value, are by no means conclusive, for one series of experiments will often yield results that are negative, while the next will give percentages that are positive. Some years ago, when I was trying to infect rats with the dysentery ameba of man, my first series failed to acquire the infection, and I was inclined to feel that the one apparently positive result reported by Brug[3] was probably an error. However, a repetition of the experiment yielded a surprisingly high incidence of infection.

For persistence and accuracy in acquiring a large series of negative results one cannot but admire the researches of Young and Hertig[4] in attempting to transmit kala azar by means of *Phlebotomus*. While it will not often be possible to procure as large a series of animals as theirs in working with the intestinal protozoa, it is apparent that, on the whole, larger series than those used in the past should be employed.

Though it is impossible to accept much of the earlier work which led to conclusions that promiscuity of relationships existed between hosts and parasites, there is a great danger today in dogmatically assigning relationships that are too rigid.

Hegner seems to favor a hypothesis of rigid host-parasite relationship among most of the intestinal protozoa of man and the mammals with which he is closely associated. He does not state a definite hypothesis with reference to all of the intestinal protozoa of man in his latest publication,[5] but he says:[6] "The endamebae resemble the giardias in their rigid host specificity," and, in referring[7] to trichomonads, expresses the "probability that forms living in different species of hosts are actually distinct species."

It appears to me to be entirely possible that some host-parasite relationships may be quite rigid while others may permit an interchange, just as one finds conditions existing among bacteria, blood protozoa and certain helminths, but it does not appear that data collected thus far warrant the generalization that host-parasite relationships among the intestinal protozoa of mammals are for the most part rigid.

One finds this reaction against absolute rigidity of host-parasite relationships permeating the other fields of parasitology as well, as expressed by the conclusions

* Read before the American Society of Parasitologists, Nashville, Tenn., Dec. 29, 1927.

* Much of the work reported here was completed in the department of pathology, Peking (China) Union Medical College.

1. Hogue, M. J.: A Study of Trichomonas Hominis, Its Cultivation, Its Inoculation into Animals and Its Staining Reactions to Vital Dyes, Bull. Johns Hopkins Hosp. **33**: 437-440 (Dec.) 1922.

2. Brumpt, E.: Recherches morphologiques et expérimentales sur le Trichomonas felis da Cunha et Muniz, 1922, parasite du chat et chien, Ann. Parasitol. **3**: 239-251, 1925.

3. Brug, S. L.: De entamoeben van de rat, Geneesk. Tijdschr. Nederl.-Indië **59**: 1-15, 1919.

4. Young, C. W., and Hertig, M.: Kala Azar Transmission Experiments with Chinese Phlebotomus Sandflies, read before the American Society of Parasitologists, Nashville, Dec. 29, 1927.

5. Hegner, R. W.: Host-Parasite Relations Between Man and His Intestinal Protozoa, New York, the Century Company, 1927.

6. Hegner, R. W.: Giardia Beckeri N. Sp. from the Ground Squirrel and Endameba Dipodomysi N. Sp. from the Kangaroo Rat, J. Parasitol. **12**: 205 (June) 1926.

7. Hegner, R. W.: Trichomonads from the Vagina of the Monkey, from the Mouth of the Cat and Man, and from the Intestine of the Monkey, Opossum and Prairie-Dog, J. Parasitol. **14**: 34 (Sept.) 1927

of Becker [8] concerning the nonspecificity of herpetomonads in flies, and the work of Reichenow [9] with the malarial parasites of anthropoid apes. One may also note among the helminths that certain parasites, which were previously thought to represent different species, are now to be regarded as identical species. An example is seen in *Clonorchis sinensis*,[10] which is found in naturally infected dogs and cats as well as in man.

METHODS OF DETERMINING SPECIES AND OF ASSIGNING RELATIONSHIPS

In the naming of species of intestinal protozoa and in the determination of host-parasite relationships, the organisms must be considered from morphologic and from physiologic standpoints.

Since the details employed in the morphologic differentiation of intestinal protozoa are apparent to all working in this field, they need not be discussed here.

Physiologic differences in the light of present knowledge are of growing importance and should be based on (1) a study of the protozoa under cultural conditions in vitro; (2) the results of cross animal infection experiments of the same parasite to different hosts, and (3) the pathologic results produced in different hosts when successfully established.

Culture in vitro of the intestinal protozoa has not yielded the important points of differentiation that may be expected in the future, for at present the egg-serum medium as given to us by Boeck and Drbohlav [11] has proved to be a medium satisfactory for the growth not of one only, but of many of the intestinal protozoa. Chemical and serologic differentiations such as are employed with the bacteria are being attempted with this group of protozoa but as yet have not yielded much data of diagnostic value. More, however, may be expected from this field in the future, as the recent work of Craig [12] on complement fixation indicates.

Animal transfer experiments yield more specific information. If cross animal experimentation of species morphologically similar can be established, and if the infection persists without loss of virulence in cases of pathogenic species and without apparent modification in the nonpathogenic varieties, one has information that is quite conclusive with reference to host-parasite relationships.

A study of the pathologic results of intestinal protozoa infection will necessarily vary in different animals, since it is probable [13] that variation in degree of symptoms of amebiasis is dependent more on the resistance of the host than on the racial virulence of the parasite. This variation in the pathologic changes is also marked in different species of hosts; e. g., it is common knowledge that kittens usually suffer from an acute dysentery when infected with the dysentery ameba of man, though in man and in monkeys a great variety of symptoms are apparent, ranging from the "carrier" state to a condition of acute dysentery.

Since the kitten does develop acute symptoms when infected with the dysentery ameba, it is the most valuable animal known with which more or less standardized results may be obtained in comparing the racial virulence of amebas.

EXPERIMENTAL INVESTIGATIONS

In an attempt to procure a suitable animal for experimental purposes with amebiasis, much of my recent work has been directed toward the subject of host-parasite relationships among the animals which I have used. While most of the investigations have been with the dysentery ameba, other intestinal protozoa have been encountered and observed. *Trichomonas* has received the greatest amount of attention next to the dysentery ameba. The details of the experimental work are being published elsewhere,[14] so merely a summary of the results will be given at this time.

Intestinal protozoa of the rat, of several species of monkeys belonging to the genus *Macacus*, and of the domestic pig have been observed. Protozoa have been encountered in the monkey and in the pig which resemble in morphology the intestinal protozoa of man. Kittens have been employed in an extensive series of amebiasis experiments with the dysentery amebas, both from acute and "carrier" human cases, and with the amebas from the monkey and the pig which produces four nucleate cysts and resembles *E. dysenteriae* of man. While kittens were examined for protozoa prior to their use in experimental work, natural infections of amebas and a trichomonas were encountered.

Most of the intestinal protozoa from these various animals have been successfully grown in culture in the egg-serum medium, and cross-animal infection has been attempted with a number of the forms with the following results:

Endameba dysenteriae, E. coli and *Endolimax nana* of man have been experimentally transferred to the white rat, the monkey and the domestic pig. *Iodameba* of man has been transferred to the monkey and the white rat,[15] and the dysentery ameba of the monkey has been transferred to the domestic pig.

In experimental amebiasis in kittens the dysentery ameba of man both from acute and carrier cases, the dysentery ameba from the monkey both from naturally infected monkeys and from a pig in which the infection had been experimentally established, the dysentery ameba from naturally infected pigs and the dysentery ameba of man experimentally established in pigs have all produced similar conditions, both in the gross pathologic manifestations and in the more minute changes observed in histologic sections.

Chilomastix of man has been transferred to the monkey and to the domestic pig.

All attempts, though few, to infect monkeys, pigs and kittens with *Giardia* of man have given negative results.

Trichomonas of man has been transferred to the monkey and *Trichomonas* of man, of the monkey, and of the pig, and *T. parva* of the white rat have all been experimentally established in kittens.

COMMENT

The results of this investigation involve problems of importance both to medical zoology and to taxonomy. They indicate that some of the lower mammals may

8. Becker, E. R.: Transmission Experiments on the Specificity of Herpetomonas Muscae-Domesticae in Muscoid Flies, J. Parasitol. **10**: 25-34 (Sept.) 1923.

9. Reichenow, E.: Ueber das Vorkommen der Malaria Parasiten des Menschen bei den afrikanischen Menschenaffen, Centralbl. f. Bakteriol., Abt. I, **85**: 207, 1920.

10. Faust, E. C., and Khaw, O. K.: Studies on Clonorchis Sinensis, Am. J. Hyg. (Monographic Series) **8**: 1-284, 1927.

11. Boeck, W. C., and Drbohlav, J. J.: The Cultivation of Endamoeba Histolytica, Am. J. Hyg. **5**: 371-407 (July) 1925.

12. Craig, C. F.: Complement Fixation in the Diagnosis of Infections with Endameba Histolytica, J. Parasitol. **14**: 126, 1927.

13. Kessel, J. F.: Experimental Infection of Rats and Mice with the Common Intestinal Amoebae of Man, Univ. California Pub. in Zool. **19**: 409-430, 1923.

14. Kessel, J. F.: Amoebiasis in Kittens Infected with Amoebae from Acute and "Carrier" Human Cases and with the Tetranucleate Amoebae of the Monkey and the Pig, Am. J. Hyg., to be published; Intestinal Protozoa of Monkeys, Univ. California Pub. in Zool., to be published; Intestinal Protozoa of Pigs, to be published; Trichomoniasis in Kittens, to be published.

15. Since this paper was presented, Smith (Host-Parasite Relations Between Iodameba Williamsi and Certain Mammalian Hosts [Guinea-Pigs and Rats], Am. J. Hyg. **8**: 1-15 [Jan.] 1928) has also reported infecting white rats with Iodameba.

serve as reservoir hosts for certain of the intestinal protozoa of man and give criteria to be employed in experimental work before naming new species of intestinal protozoa.

The possibility that the lower mammals may harbor infections of the protozoa that infect man has often been considered and these observations merely give evidence that supports this hypothesis in certain instances.

THE DYSENTERY AMEBA

The question of whether the rat may harbor the dysentery ameba of man has been before us for some time, but it was not until Brug,[3] Kessel [13] and Chiang [16] reported experimental infection of rats with cysts of the dysentery ameba of man that this question has been forcibly presented. Chiang [16] has corroborated the results of Brug and Kessel and has carried the work considerably further. He obtained cultures of amebas from both natural and experimental infections of white rats in the egg-serum medium, and produced acute dysentery in kittens with amebas both from the natural and from the experimental infections. He assigns the name murina as a varietal distinction of the amebas found in naturally infected rats but does not present any evidence that this ameba is in any way morphologically or physiologically different from the dysentery ameba found in man. He recognizes the rat as an animal of importance from the point of view of preventive medicine.

Unless one disregards these results completely, the only apparent conclusion is that rats may harbor the dysentery ameba of man for an indefinite period and that the virulence of the ameba is maintained in its passage through the rat.

The intestinal protozoa of monkeys furnish a fascinating problem because of the phylogenetic relationship of man and other primates. Intestinal protozoa resembling in morphologic characteristics most of the common intestinal protozoa of man have been reported from a number of different species of monkeys and the distribution seems to be world wide. With the exception of *Balantidium*, a complete series of those reported elsewhere have been encountered from monkeys in the present study. They correspond in morphologic characteristics to the intestinal protozoa of man and cultures of most of them have been grown in the egg-serum medium. Monkeys have been successfully infected with *E. dysenteriae, E. coli, E. nana, Iodameba, Chilomastix* and *Trichomonas* of man, and kittens have been infected with the dysentery ameba from naturally infected monkeys with the development of symptoms which were in no apparent way different from the symptoms produced in kittens infected with the dysentery ameba of man. Dobell [17] has not published in detail the results in which he finds that kittens infected with the dysentery ameba of monkeys may show symptoms slightly different from those of kittens infected with the dysentery ameba of man, but it seems possible that his difference may be one merely of degree.

Dobell and Laidlaw,[18] basing their conclusions on both morphologic and cultural evidence, state definitely that they consider *E. nana* of monkeys and of man to be identical. Reasoning by analogy, there does not seem to be any apparent reason why the other intestinal protozoa of monkeys should represent different species, and I feel that evidence based on our present knowledge of the subject warrants the conclusion that the common intestinal protozoa of monkeys and of man belong to identical species.

Monkeys have been shown to exhibit pathologic disturbances similar to those experienced by man infected with the dysentery ameba, and of all animals used thus far in experimental work with amebiasis, I feel that the monkey is the most suitable for infection experiments, when one desires to observe conditions parallel to those that exist in man.

In the present study, a number of protozoa resembling the intestinal protozoa of man, i. e., *E. dysenteriae, E. coli, Iodameba, E. nana, Chilomastix* and *Trichomonas*, have been encountered in the domestic pig. On their being found, the question immediately arose as to whether those not previously reported should receive new species names or whether they should be considered the same species as their co-types in man. As I preferred to accumulate experimental evidence before arriving at a decision, no new species names have been given to these forms.

The dysentery ameba which is morphologically similar to *E. dysenteriae* of man and which is morphologically different from *E. polecki*, the common mononucleate ameba of the pig, has been grown in culture in the egg-serum medium and has been experimentally established in kittens, producing symptoms indistinguishable from the symptoms found in kittens infected with the human dysentery ameba. The dysentery amebas of man and of the monkey have also been experimentally transferred to the pig. Cysts and trophozoites have been recovered from the experimentally infected pigs, and these have been grown in culture in vitro and experimentally established in kittens, producing symptoms similar to those produced by infection with the human dysentery ameba.

The one fact here that leads one to refrain from drawing definite conclusions concerning the identity of the dysentery ameba of the pig is that both naturally and experimentally infected animals spontaneously cleared themselves of the infection after a period of from four to six weeks, this spontaneous evacuation being the result either of an unestablished relationship between host and parasite or of the administration of cod liver oil, which was a portion of the daily diet of the pigs kept under laboratory conditions. However, the life cycle of the ameba was completed in the pig, since the cysts were recovered for a period varying from four to six weeks after establishing the infection, and it is also shown that the virulence of the human and monkey dysentery amebas was retained when they were passed through the pig. While at present it is impossible to say definitely whether the pig is an accidental or a tolerant host of the human dysentery ameba, and whether the dysentery ameba of the pig is without doubt the same species as the dysentery ameba of man, it may be stated that the pig may serve as a temporary reservoir host of the dysentery amebas of man, thus presenting a public health problem of significance.

TRICHOMONAS

Natural infections of *Trichomonas* in kittens have been reported of late, and the name of *Trichomonas felis* da Cunha and Muniz [19] has been accepted by some investigators, notably Brumpt,[2] his conclusions being based mainly on the negative transmission results of

16. Chiang, S. F.: Study of Parasitic Amoebae by Experimental Cross Infection of Laboratory Animals, Nat. M. J. China **11**, number 6, 1925.
17. Dobell, C.: Intestinal Protozoa of Monkeys: Report of the Medical Research Council for the Year 1925-1926, London, H. M. Stationery Office, 1925, pp. 31-32.
18. Dobell, C., and Laidlaw, P. P.: On the Cultivation of Entamoeba Histolytica and Some Other Entozoic Amoebae, Parasitol. **18**: 283-318, 1926.
19. Cunha, A. da, and Muniz, J.: Sobre um flagellado parasito do gato das aves, Brasil-med. **36**: 285, 1922.

Hogue,[1] in which she tried to infect kittens with *Trichomonas* of man.

In morphologic characteristics there are no evident differences between the trichomonas reported from the cat and *Trichomonas* from man. Experimentally, I have established *Trichomonas hominis* from man in ten of fourteen kittens. I therefore feel that there is no more evidence to justify the name *Trichomonas felis* than there would be to justify a new species name which it would be possible to apply to the amebas that I have found recently in naturally infected kittens.

Further, *Trichomonas parva* of the white rat, a trichomonas from the monkey and one from the pig have been successfully transferred to kittens. Knowles[20] also reports the transference of *Pentatrichomonas* from man to kittens, and Wenrich and Yanoff[21] record the transference of *Pentatrichomonas* of man to the white rat. In the light of these results, it does not seem possible to concur with the conclusion of Hegner[5] that "the host-parasite specificity of the human intestinal trichomonas seems, however, quite rigid."

GIARDIA

Giardia normally inhabits the duodenum, and since this flagellate has not been grown in culture in vitro as yet, it seems probable that the environment in the duodenum is more restricted in character than it is in the colon, which is the habitat of most varieties of intestinal protozoa. This apparent delicate balance of environment may indicate a rigid host relationship for this species, and Hegner[5] apparently has been stimulated in formulating his hypothesis with reference to the rigidity of host-parasite relationships among the intestinal protozoa by his experimental work with *Giardia,* which for the most part has yielded negative results.

In attempting to infect monkeys, pigs and kittens with *Giardia lamblia* I have also procured negative results, but I do not feel as yet that the data warrant the drawing of final conclusions concerning the host-parasite rigidity of this species. If *Giardia simoni* Lavier[22] and *Giardia lamblia* are the same species as Hegner[23] states is probably the case, then we have evidence that *Giardia lamblia* may infect rats.

Further, Hegner's own excystation experiments with human *Giardia* in rats in which infections were established and persisted for fourteen days may possibly indicate even less rigidity of host relationship of *Giardia* than Hegner's[24] own interpretations indicate. If the infection persists for fourteen days in some rats, it is possible that it may persist longer in other rats and even complete the life cycle, as is indicated by finding *Giardia simoni* in rats.

Thus, even in the case of *Giardia* it would seem that conclusions concerning host-parasite rigidity are inadvisable until more complete data are acquired.

At present it is purely speculative to comment on the origins of parasitic from free living forms; yet it seems probable that parasitic varieties, at least in closely associated mammals, may possess a common origin. Specific differences and rigid host-parasite relations indicate a more advanced evolutionary change than is found in strains in which an interchange is still possible, but these cannot be compared until further experimental work has been accomplished.

In the light of our present knowledge, it appears that rigid rules and conclusions concerning host-parasite relationships cannot be laid down for all of the intestinal protozoa, for by so doing scientific progress will be retarded rather than enhanced.

It is probable that some relationships may be quite rigid but, on the other hand, others appear to permit an interchange. We must therefore base our conclusions concerning host-parasite relationships among the intestinal protozoa of man and the common laboratory and domestic mammals on further experimental evidence collected from the individual hosts and parasites in question.

20. Knowles, R.: Report to the Professor of Protozoology, Annual report of the Calcutta School of Tropical Medicine, Institute of Hygiene, and the Carmichael Hospital for Tropical Diseases for the year 1925, Calcutta, Caledonian Printing Company, Ltd., 1925, pp. 70-76.
21. Wenrich, D. H., and Yanoff, J.: Results of Feeding Active Trichomonad Flagellates to Rats, Am. J. Hyg. **7**: 119-124 (March) 1927.
22. Since this paper was presented, the work of Potter (Two Species of Giardia from the Rat, Am. J. Hyg. **8**: 77-85 [Jan.] 1928) has been published in which he concludes that G. lamblia and G. simoni are one species and also that the rat may act as a reservoir for G. lamblia of man.
23. Hegner, R. W.: Excystation and Infection in the Rat with Giardia Lamblia from Man, Am. J. Hyg. **7**: 433-445 (July) 1927.
24. Hegner (footnotes 5 and 23).

UREA AND CREATININE CONTENTS OF THE BLOOD IN RENAL DISEASE

A STATISTICAL ANALYSIS OF FIVE THOUSAND OBSERVATIONS *

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This investigation of the relationships between the urea and creatinine contents of blood was made because of a number of apparent anomalies which have been encountered and which could not be explained on the basis of technical errors. The results of this study are of clinical interest since they lead to a new interpretation of these tests.

A glance at a large series of determinations of the urea nitrogen and creatinine contents of specimens of blood reveals some parallelism between the concentrations of these two nitrogenous substances, though they are not strictly proportionate. For example, in table 1

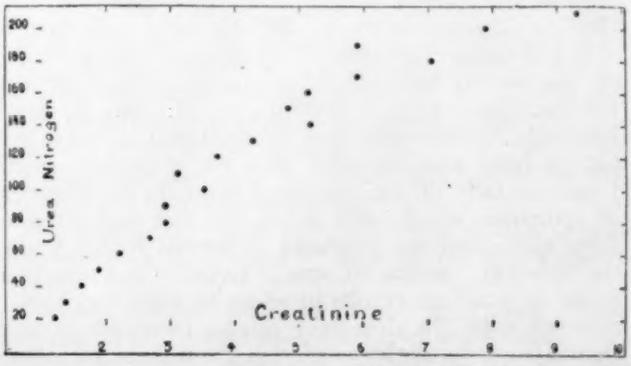

Chart 1.—Blood urea nitrogen-creatinine relationship in the entire group of cases. In the charts the urea nitrogen and the creatinine are given in milligrams per hundred cubic centimeters of blood.

are shown the data of 5,000 analyses, all of which were made with the same technic and by the same technicians in our laboratory during the last few years. In the first column are recorded the blood urea nitrogen values, in groups, as follows: under 20 mg. per hundred cubic centimeters of blood, from 21 to 30 mg., from 31 to 40 mg., and so on. In the second column are shown

* From the departments of urology and metabolism of the Montreal General Hospital.

the incidences of such values, and in the third column are recorded the average creatinine values corresponding to these groups. These data are graphically recorded in chart 1.

As with all other laboratory tests, if the number is sufficiently large, anomalies are encountered. The laboratory observations may then be incompatible with the clinical picture, and yet they are found not to be due to technical errors, since repetition of the tests leads to the same results. For example, when a patient with chronic nephritis has a nitrogen retention corresponding to about 100 mg. of urea nitrogen per hundred cubic centimeters of blood, the clinical picture is usually characteristic. Blood analyses are then made only as a matter of routine, and are not, as a rule, required for diagnostic purposes. There are then usually found signs and symptoms suggestive of preuremia, such as loss of appetite, headaches and sallow complexion. There is also found a marked increase of the creatinine content of the blood. On the other hand, patients in the urologic service, many of whom suffer from some obstructive condition in the lower urinary tract and

TABLE 1.—*Corresponding Urea and Creatinine Values of Bloods of Five Thousand Patients with Kidney Disease*

Urea Nitrogen, Mg. per 100 Cc. of Blood	Number of Cases	Average Creatinine, Mg. per 100 Cc.
20	1,119	1.20
21 - 30	1,643	1.36
31 - 40	509	1.64
41 - 50	329	1.89
51 - 60	225	2.21
61 - 70	179	2.67
71 - 80	146	2.93
81 - 90	136	2.92
91 - 100	102	3.52
101 - 110	66	3.10
111 - 120	66	3.71
121 - 130	72	4.28
131 - 140	67	5.18
141 - 150	57	4.81
151 - 160	40	5.13
161 - 170	36	5.86
171 - 180	24	7.04
181 - 190	22	5.85
191 - 200	18	7.87
201	55	9.30

whose bloods show urea nitrogen values over 100 mg. or more, may be relatively bright mentally and not have any such symptoms, and the bloods of such patients may at times show normal or nearly normal creatinine values, as the data in table 2 strikingly demonstrate.

Though we are certain that such relationships were not due to faulty technic, both from a repetition of the tests and from the incidence of their occurrence, we record as proof of this statement our observations in one of many cases in which analyses were made daily for one week:

In a patient with stricture of the urethra, complete retention of urine and azotemia, observed over a period of seven days, the phenomenon of high urea concentrations and only slightly increased creatinine values occurred daily, as shown in table 3.

From these observations it is obvious that our present interpretation of blood urea and creatinine requires modification. The prevalent ideas may be briefly restated.

The principle underlying these tests is that when the kidneys become unable to excrete properly any one of the end-products of normal protein metabolism, this substance must accumulate in the blood stream, and the degree of its retention becomes an index of the degree of impairment of the kidneys. Because of differences between the capacities of normal kidneys to excrete the different end-products under normal conditions, different significances are usually attached to the retentions of these substances. For example, it is generally assumed that, under normal conditions, the kidneys can concentrate urea about fifty times. That is, a liter of urine may contain about fifty times as much urea as a liter of blood. Under the same conditions the kidneys are assumed to be able to concentrate creatinine about 100 times. Since the kidneys are supposed to be able

TABLE 2.—*Creatinine Values in Urologic Conditions*

Diagnosis	Blood Analyses, Mg. per 100 Cc.	
	Urea Nitrogen	Creatinine
Prostatism	168	2.40
Urethral stricture	168	2.14
Carcinoma of bladder	105	1.57
Prostatism	230	2.43

to concentrate creatinine much more readily than urea, creatinine retention in the blood is regarded as a late manifestation of kidney disease. Because of this fact, much greater prognostic significance is attached to the creatinine content of the blood than to the urea content.

As with all laboratory tests it is necessary, in the interpretation of the data, to consider variables. With these tests, factors other than renal, which may account for excess quantities of these end-products in the blood, are to be considered. Even when the retention is due to renal disorders alone, correlation of the clinical picture with the laboratory data is important in order to distinguish between temporary and permanent kidney lesions; for example, between mechanical obstruction due to stricture or an enlarged prostate, and permanent organic lesions, such as chronic nephritis. One of us has discussed these factors elsewhere, and further repetition is not required, since they do not have any especial bearing on the subject under discussion.

If this conception of high nitrogen values is correct, urea and creatinine values should, in the absence of technical errors, show some correspondence in all cases, medical or urologic. Also in the urologic group, that is, in the cases of mechanical obstruction to the urinary outflow, high creatinine values should, unlike in the medical group, be encountered early in the disease, since here there is no selective excretion, all substances being completely retained. The observations in the

TABLE 3.—*Daily Record of Blood Analyses*

Day	Urea Nitrogen, Mg. per 100 Cc. of Blood	Creatinine, Mg. per 100 Cc. of Blood
1	167	2.46
2	154	2.44
3	155	2.30
4	168	2.14
5	162	2.11
6	140	2.40
7	105	1.83

cases recorded in table 2 are not compatible with these ideas. It would therefore appear that in the medical and urologic groups of cases one is dealing with two different phenomena as regards the excretion of nitrogen. That this is the case will be seen from the following statistical study.

The 5,000 cases recorded in table 1 were subdivided into two groups; namely, those belonging to the medical services and those of the urologic service. The average creatinine values for the various urea levels were then calculated. The results of this tabulation are shown

in table 4, and are graphically recorded in chart 2. It will be noted that the creatinine values corresponding to the different urea levels were greater in the medical group and smaller in the urologic group than those found in the combined group shown in table 1.

Since a large number of patients in the urologic service also had chronic nephritis, particularly those with prostatic obstruction, all urologic cases were further subdivided into two groups, according to the microscopic picture of the urines, namely, those with casts and those without casts, and the creatinine values were obtained for the different urea levels. The results of this procedure are shown in table 5 and are graphically recorded in chart 3. It will be noted that the average creatinine values of the group with casts correspond practically with those in the medical cases (table 4), whereas the values of the group without casts are distinctly lower than the values in all these groups. Statistically, therefore, we observe two different phenomena.

TABLE 4.—*Corresponding Urea and Creatinine Values of Blood of Patients with Kidney Disease in Medical and Urologic Wards*

	Medical Group		Urologic Group	
Urea Nitrogen, Mg. per 100 Cc. of Blood	Number of Cases	Average Creatinine, Mg. per 100 Cc. of Blood	Number of Cases	Average Creatinine, Mg. per 100 Cc. of Blood
20	624	1.31	495	1.08
21 - 30	975	1.42	667	1.27
31 - 40	326	1.78	273	1.47
41 - 50	142	1.94	187	1.86
51 - 60	100	2.39	125	2.07
61 - 70	91	2.81	88	2.54
71 - 80	82	3.05	64	2.79
81 - 90	60	3.18	76	2.72
91 - 100	72	3.61	30	3.32
101 - 110	30	3.49	36	3.06
111 - 120	41	3.88	25	3.43
121 - 130	38	4.93	34	3.57
131 - 140	50	5.63	17	3.74
141 - 150	21	5.78	36	4.27
151 - 160	22	5.75	18	4.32
161 - 170	15	6.80	21	5.19
171 - 180	14	7.91	10	5.81
181 - 190	9	6.91	13	5.13
191 - 200	11	8.20	7	5.92
201	44	9.91	11	6.87

Clinical experience [1] with the diazo color reaction for uremia supports this view. Though found almost invariably in chronic nephritis with such high urea values as already mentioned, its absence has been the rule in urologic cases with corresponding blood urea values. That is, in urologic cases, uncomplicated by chronic nephritis, there does not appear to be any correspondence between blood urea concentrations and positive diazo color reactions. When, however, the high blood urea is not due to mechanical obstruction but to kidney tissue destruction, the diazo color reaction then makes its appearance. An illustration of this phenomenon may be seen in the following case, previously reported.[2]

A man, aged 28, was admitted to the Montreal General Hospital, in the service of one of us (F. S. P.), Jan. 3, 1925, with a diagnosis of tuberculosis in the only remaining kidney, and anuria, which had its onset three days prior to admission. On the day of admission the blood urea nitrogen was 90 mg. per hundred cubic centimeters. The diazo reaction was negative. The patient was seen by Dr. C. P. Howard, January 26, and at that time the clinical picture did not correspond with the laboratory observations. Dr. Howard's impression was that the patient did not look ill in spite of the laboratory data. The blood urea nitrogen the following day was 96 mg. The diazo reaction was again negative. Two days later, the blood urea nitrogen was 140 mg. and the diazo reaction was again negative. Following a nephrostomy, the blood urea nitrogen decreased gradually, and January 31 it was 22 mg. per hundred cubic centimeters. On the following days the values for the urea gradually increased, and February 5 it was 65 mg. per hundred cubic centimeters. At this time the diazo reaction was positive. Five days later the blood urea nitrogen was 90 mg., the diazo reaction was positive, and the patient died in uremia.

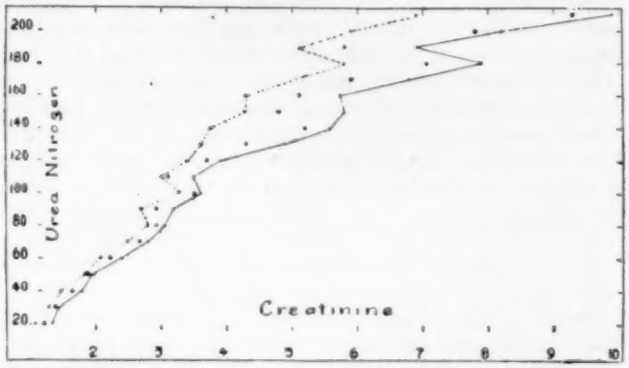

Chart 2.—Blood urea nitrogen-creatinine relationship, whole, medical and urologic groups: solid line, medical group; large dots, whole group; broken line, urologic group.

It appears reasonable to assume that the high blood values prior to nephrostomy were largely due to the mechanical obstruction caused by the tuberculous stricture of the ureter, rather than the destruction of renal tissue. It would otherwise be difficult to explain the remarkably rapid decrease of the blood urea nitrogen. As the pyelonephritis became more marked and a greater destruction of renal parenchyma took place, the diazo reaction became positive. The latter reaction was now noted when the degree of retention of urinary products in the blood was much below that noted before the nephrostomy. It will be noted that the symptoms of uremia corresponded to the time of the appearance of the positive diazo color, but not to that of the high blood urea concentration.

TABLE 5.—*Corresponding Urea and Creatinine Values of Blood of Urologic Patients With and Without Casts in Urine*

	With Casts		Without Casts	
Urea Nitrogen, Mg. per 100 Cc. of Blood	Number of Cases	Average Creatinine, Mg. per 100 Cc. of Blood	Number of Cases	Average Creatinine, Mg. per 100 Cc. of Blood
20	84	1.43	411	1.01
21 - 30	96	1.39	571	1.26
31 - 40	21	1.72	252	1.46
41 - 50	23	2.01	164	1.84
51 - 60	24	2.36	101	2.01
61 - 70	47	3.04	41	1.97
71 - 80	36	3.21	28	2.26
81 - 90	15	3.30	61	2.58
91 - 100	14	3.82	16	2.89
101 - 110	14	3.50	25	2.79
111 - 120	9	4.02	16	3.11
121 - 131	6	4.86	28	3.30
131 - 140	6	4.67	11	3.25
141 - 150	9	6.84	27	3.42
151 - 160	4	5.92	14	3.87
161 - 170	11	6.60	10	3.64
171 - 180	4	7.02	6	5.01
181 - 190	4	6.35	9	4.86
191 - 200	3	8.12	4	4.27
200	6	8.83	5	4.52

These observations lend themselves to certain speculations. It would at first appear that different kidney lesions affect creatinine excretion differently. However, a fact difficult to explain on the basis of different

1. Andrewes, C. H.: Lancet **1**: 590 (March 22) 1924. Hewitt, L. F.: Biochem. J. **19**: 171, 1925. Rabinowitch, I. M.: Canad. M. A. J. **15**: 725 (July) 1925.
2. Rabinowitch (footnote 1).

rates of excretion is that with sudden complete obstruction to urinary outflow, as occurred in the urologic cases in which one would expect the highest creatinine values, the lowest values were encountered. Because of this the possibility suggests itself that the substance, or at least a greater part of it which we regard as creatinine, is probably not creatinine at all but some other substance which reacts with trinitrophenol and alkali to yield a color similar to that obtained with creatinine. That this idea is not without support may be seen from the following observation by Benedict and Behre.[3]

These authors first suggested, as a result of experiment, that the greater part of the substance which gives the creatinine-like reaction in normal blood may not be creatinine. Creatinine is readily destroyed by means of alkali and heat. These authors found that, when pure creatinine was added to blood and the protein free filtrate of the latter was treated with alkali and heat, the added creatinine was totally destroyed, whereas a great part of that supposed to be creatinine and originally present in the blood was not destroyed. Following the same technic as Behre and Benedict, we also have observed this phenomenon in some of the samples of blood of high "creatinine" concentrations.[4] That this, however, is not the only explanation is suggested from the fact that in some cases it was possible to destroy practically all of the large amounts of a creatinine.

It is of clinical interest to note the similarities between the diazo color reaction and creatinine. Whenever the "creatinine" was present in large amounts (corresponding to more than 3 mg. of creatinine per hundred cubic centimeters), a positive diazo color reaction for uremia was also found, whereas high urea values were not always accompanied either by this

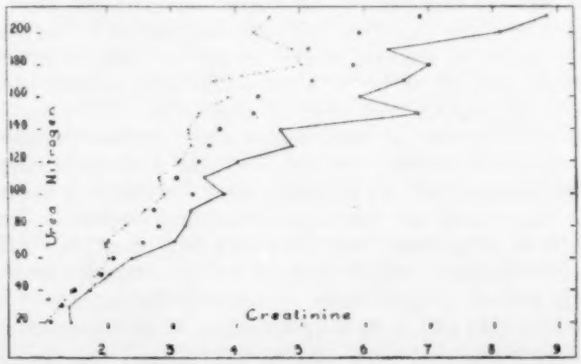

Chart 3.—Blood urea nitrogen-creatinine relationship, urologic group, with and without casts in urine: solid line, casts; large dots, whole group; broken line, no casts.

reaction or by a high creatinine concentration. From the point of view of prognosis, the diazo color reaction, as creatinine, has been found to be of greater value than the urea reaction. Symptoms of uremia have almost invariably been present when a positive diazo color reaction was found. Is this substance responsible for symptoms of uremia? If so, it may explain the favorable progress of patients whose blood does not show it, in spite of high urea concentrations.

SUMMARY

A large series of observations led to the finding of cases in which the general relationships between the urea and creatinine concentrations of blood were absent. In these cases, high urea values were found associated with normal or nearly normal creatinine values. This led to a special investigation of these cases.

It was found that, in spite of high urea values, symptoms of uremia were usually absent when the creatinine values were normal or nearly normal. It was also found that though high creatinine values and symptoms of uremia were accompanied by positive diazo color reactions, this was not necessarily so with high urea values.

Since the different creatinine values could not be explained wholly on the basis of different rates of creatinine excretion, it was suggested that the greater part of what is regarded as creatinine is probably not creatinine. Chemical studies of some specimens of blood supported this view.

The clinical value of these observations, from the point of view of the chemical reactions of the blood, lies in their showing that urea studies unaccompanied by observations on "creatinine" and the diazo color reaction should not be relied on in estimating progress or prognosis.

3. Benedict, S. R., and Behre, J. A.: J. Biol. Chem. **52**: 11 (May) 1922.

4. The results of this investigation, of interest chiefly to the chemist, form part of a communication to be published separately.

SPECIFIC READING DISABILITY—STREPHOSYMBOLIA

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It has long been recognized that there are certain children who have a more or less selective difficulty in learning to read. The earlier observers of this condition, among them Berkhan,[1] in 1885, apparently assumed that it was related to a general mental defect and described such cases as partial imbeciles (halbidiote). A more or less complete inability to learn to read, particularly when it is associated as it often is with atrocious handwriting and poor spelling, naturally enough would incline the uncritical observer to assume that the child was, if not truly defective, at least not as bright as he should be to accomplish his school tasks. Very often the logic of this explanation forms a typical vicious circle. The child is said to be feebleminded because he cannot learn to read, and his inability to learn to read is said to be because he is feebleminded. Gradually, however, case reports of children who were obviously bright in most respects but who could not learn to read or who progressed in reading only with the greatest difficulty were recorded, and in 1896 an English school physician, Kerr,[2] and an English ophthalmologist, Morgan,[3] independently published case reports of reading disability in children of "normal intelligence." Morgan considered the condition to be a specific disease entity and gave it the name of congenital word blindness, by which it has been most widely known since his reports. It is interesting to note that much of the early observation in these cases came from the ophthalmologists; naturally, a distorted vision was at once suspected in such cases and the aid of a specialist in this field was sought. A second English ophthalmologist, Hinshelwood,[4] studied a series of cases intimately and compared them critically with cases of acquired word blindness; i. e., the

1. Berkhan, Oswald: Ueber die Störungen der Schriftsprache, Arch. f. Psychiat. **16**: 3, 1885.

2. Kerr, James: The Howard Price Essay of the Royal Statistical Society, June, 1896.

3. Morgan, W. P.: A Case of Congenital Word Blindness, Brit M. J., 1896-1897, p. 1378.

4. Hinshelwood, James: Congenital Word Blindness, London, H. K. Lewis & Co., 1917.

loss of ability to read which follows in certain cases of local brain destruction by hemorrhage, softening tumor and other destructive organic processes. On the basis of this comparison, Hinshelwood hypothecated a congenital defect of development of the brain area for registration of visual memories of words, and this envisagement of the reading disability as a result of faulty development of part of the brain has maintained its influence to a considerable degree in medical circles to the present time. Many psychologic studies have been made of these cases and certain observable functional variants, such as unstable attention and short memory span for letters, have been recorded with at times an attempt to explain the disability as a result of such conditions. In more recent years, as the views of the functional school of psychiatrists have spread, their view of the almost universal causative influence of emotional disturbances has been carried into the field of children's difficulties of every type, and in the child guidance and mental hygiene clinics observed emotional variants when associated with special disabilities have often been assumed to play an etiologic rôle.

The assumption of a certain degree of intellectual defect as the explanation of reading disability is easy of rebuttal but apparently most difficult of eradication. Many of these children are good at arithmetic; they do not show any defect in reasoning or in judgment for their age; they often appear bright and alert and learn very quickly such material as is presented to them by ear, and some are good spellers. There are, moreover, a number of cases recorded of individuals who suffered severely with this disability in their earlier years in school but who overcame it and ultimately demonstrated a very high degree of intelligence. It should be remarked here that Hinshelwood in his use of the term "congenital word blindness" restricted it to a narrow group. He says that the term "should be reserved for the really grave degrees of defect which manifestly are the result of a pathological condition of visual memory center and which have proved refractory to all ordinary methods of school instruction." Such a criterion is obviously unsound. No pathologic condition of the visual memory center has as yet been demonstrated, and "ordinary methods of school instruction" may cover a multitude of sins.

The assumption of a local brain defect is more difficult to refute. So far no necropsy reports in cases of congenital word blindness have been made, and hence no concise information is available on this point. The assumption rests, however, on the parallelism which exists between the symptoms of acquired word blindness due to destruction of parts of the brain after education is complete and the symptoms of this specific disability. No one can deny that the parallelism is often very exact, but in the closely related field of speech, Marie [5] has called attention to the fact that the results of lesions in adults after acquisition of speech cannot be directly applied to children in the plastic period of acquisition. Marie emphasizes that destructive lesions in the so-called speech zone in children do not prevent the acquisition of speech and considers that, in the event of destruction of such areas before training is accomplished, there results an education of other areas for this purpose. This view, together with the facts already quoted concerning complete recovery from reading disabilities of fairly severe grade, must be held to militate against the hypothesis of a congenital brain defect.

5. Marie, Pierre: Presse méd. **30**: 177 (March 1) 1922.

In January, 1925, it was my good fortune to direct a mental hygiene clinic in a semirural community in Iowa.[6] To this clinic 125 school children were referred for various reasons, and of these fifteen appeared to me not only to be retarded in reading for their age and less apt in this than in their other studies but also to show certain similarities in the errors which they made in attempting to read. One of these cases would fit the measure for the congenital word blindness of Hinshelwood, and the others of the group seemed to form a more or less continuous grading between this extreme and the normal. The group, moreover, showed a distribution throughout a wide range of intelligence and could by no means be looked on as defectives. The distribution, as measured by the Stanford-Binet tests and the range of obtained intelligence quotients, was from 71 to 122. In passing it may not be amiss to call attention to the fact that these tests themselves must be called in question, when applied to such a group, for three reasons. In the first place, the standards or norms have been determined by application to a large series of children of whom presumably only a small proportion had any reading disability, and hence the standard is an unjust one for them. Secondly, the application of the test itself in places depends on printed material and hence directly penalizes the score of a child who has not learned to read. A third factor that probably also operates is that the intake of a child who does not read easily is naturally much more restricted than that of others, and differences in his word storage as evinced perhaps in vocabulary tests would be expected. That such paucity of word storage and of information ordinarily acquired through reading need not relate to the potential capacity of the individual, an estimate of which is the aim of the Binet methods, is axiomatic. A tentative estimate of the degree of these penalties has since been made.[7] Another observation of interest in this group was the relatively high proportion of boys to girls—thirteen to two—and this is apparently also true of stuttering.

A short series of tests was carried out in the field examinations in this group of cases, and these were much elaborated by an intensive study of the very severe case seen later at the Psychopathic Hospital. The results of this study were reported by me [8] in 1925. Certain features which seemed to be common to the group were: (1) difficulty in differentiating p and q, and b and d; (2) a striking tendency to confuse pallindromic words like was and saw, not and ton, and to reverse paired letters or even whole syllables or words in reading so that they were read from right to left instead of from left to right; (3) a considerable degree of capacity to read from a mirror—one boy actually read faster and with less mistakes with a mirror than without, and (4) a greater facility in producing mirror writing, i. e., in writing to the left with complete antitropic reversal of all letters. It was easily demonstrated that these children did not have any visual defect in the ordinary sense and moreover that they did not have any defect in the second level of brain function in the visual field; i. e., they could make adequate and proper use of visual memories of objects, calling the names of objects and pictures promptly and quickly. Indeed, the boy with the very severe degree of reading disability who could read only a very few

6. Lyday, June F.: The Greene County Mental Clinic, Ment. Hyg. **10**: 759 (Oct.) 1926.
7. Durrell, D. D.: To be published.
8. Orton, S. T.: "Word-Blindness" in School Children, Arch. Neurol. & Psychiat. **14**: 581 (Nov.) 1925.

simple words correctly although 18 years of age was able to make a score on the Healy pictorial test (which requires rather judicious use of visual imagery at the objective level) that was equaled only by the record of superior adults.

It is evident that it is at the third level of visual elaboration where association between the printed or written word and its meaning or concept takes place that a dysfunction exists in these cases, which in the very severe case was practically complete. There is no difficulty with auditory memory—indeed, many patients have an unusually keen auditory memory—and concepts are readily built from material presented verbally, but such concepts are not aroused by the visual presentation of the corresponding printed or written word. Some factor has operated here to prevent the normal acquisition of prompt and facile associative linkage between words when visually presented and the corresponding concept and, in reverse order, in many cases, with the associative linkage between the concept and its graphic counterpart, as is shown not only in poor handwriting and misspelling but in extreme cases often by the construction of a wealth of neographisms, as in the case that I reported.[8]

These observations focused our attention on the third visual elaborative level of the brain as of primary importance in any attempt to understand the physiologic basis of these conditions, and one rather striking difference which is demonstrable between this and the lower levels of visual function seemed to offer a key to the problem. The first level serves to give awareness that a visual sensation comes from without and is not a recalled memory of things seen; in psychologic terms, this level furnishes the element of external awareness in sensation. This function, without much question, resides in the area striata or calcarine cortex of the occipital lobes. The second level, that of objective memories, serves as the storehouse for visual impressions of objects which have been seen. This function probably resides in the second type of occipital cortex which surrounds the calcarine or striate area. Up to this point the two hemispheres of the brain apparently work in unison to produce a single conscious impression; i. e., the messages relayed from the eyes to the two sides of the brain are fused so as to give only one impression. This is brought into relief by the fact that neither of these functions is entirely lost as a result of the destruction of either hemisphere; a bilateral lesion is required to suppress the function of either the first or the second visual platforms. At the third or associative level, however, destruction in one hemisphere may result in complete loss of the associative function, resulting in inability to read (acquired word blindness), while destruction of exactly the same area in the opposite hemisphere will not give rise to any symptoms whatever. That hemisphere in which destruction produces loss of the associative function is called the dominant hemisphere, and may be either the left or the right, according to the side which habitually initiates the motor responses of the individual. In other words, it is obvious that the visual records of one side only are used in symbolic association and those of the other are elided or inactive in this process.

Structurally, however, there is no such contrast between the two hemispheres. The nondominant associative area is as well developed in size and complexity as is the dominant, and current neurologic belief (neurobiotaxis) would imply that this silent or inactive area must have been irradiated equally with the active to produce an equal growth. Such an irradiation, moreover, would presumably leave behind it some record in the cells of the nondominant side which one may call an engram. The engram in the nondominant side would be opposite in sign, however, from that of the dominant; i. e., it would form a mirrored or antitropic pattern. Under usual circumstances only one of these reciprocally paired engrams operates in association with the concept in reading, as is shown by the facts of acquired word blindness already cited, and its antitropic or mirrored mate is elided or remains inoperative. If, however, the physiologic habit of complete elision of these engrams of the nondominant hemisphere were not established, their persistence might readily serve to explain the failure to differentiate between p and q and between was and saw, and also to account for facility in mirror reading and mirror writing, and thus to explain those confusions of direction which have been extensively recorded in the literature and which as here described seemed to characterize all the cases of my own series. Since this conception of the disability as a physiologic variant differs so widely from the pathologic moment known to result in acquired word blindness, I have felt that the use of the term congenital word blindness was misleading and have offered [8] the term strephosymbolia—twisted symbols—to demarcate better the series of cases showing this typical symptomatology.

This preliminary study thus led me to believe that the reading disability forms a graded series in severity; that it is not generically related to general mental retardation; that it is explainable as a variant in the establishment of the physiologic lead in the hemispheres rather than as a pathologic condition and, as a corollary of the latter view, that proper methods of retraining, if started early enough, may be expected to overcome the difficulty.

To put these beliefs to the test, funds were asked of the Division of Studies of the Rockefeller Foundation, and a grant was received from it for the purpose of extending our studies. Under this grant the work was carried forward with a group of research assistants in the laboratories of the Iowa State Psychopathic Hospital from January, 1926, until I severed my connection with that institution in October, 1927. The full reports of this work are still in preparation and they will not all be available in print for some time. As a summary of the studies I may say, however, that the tenets of our theorem as given above have been abundantly supported. We have complete records of 175 children referred from the schools of Iowa City and from a number of communities of the state which were visited by our Mobile Unit, who were retarded in reading with regard both to their actual age and to their mental age and who constituted a group with selective difficulty in this subject of sufficient degree to be a significant factor in their school progress. These have been checked against similar examinations in 120 normal readers,[9] and they bear out strikingly the importance of the tendency to reversal in the direction of reading as a cardinal factor in the reading disability. Errors in vowels and in consonants and a variety of other observed errors, while needing corrective training, may be considered largely a secondary defect of the learning process resulting from a lack of practice in reading because of the obstacle in recognition inter-

9. Monroe, Marion: Methods for Diagnosis and Treatment of the Reading Disability, to be published.

posed by the reversals. In the course of these observations our records have made possible the construction of a series of diagnostic tests which will apparently clearly differentiate cases of this reading disability even in the lower grades from the normal readers and at the same time will serve as a guide to retraining methods.

Our extended studies have not only borne out our conviction that these cases form a series graded in severity from the mild case in which spontaneous correction occurs under the ordinary teaching system to the extreme case in which practically no reading facility is acquired without special instruction, but they have also given evidence of the much greater numerical incidence of this condition than has been recognized heretofore. Various authors have estimated the total number of cases at from 1 per thousand [10] to 7 per thousand.[11] Bachmann [12] notes that this wide discrepancy rests on the range of severity included in the concept of congenital word blindness by various writers. With as loose a concept as that of Hinshelwood [4] there is small wonder that the number of cases reported should vary within wide limits. Our studies are based on objective criteria—the number of reversals in reading, the ratio of mirror reading time to reading time of normally oriented text, the level of reading performance compared with expectations for mental age and competence in other subjects—and we feel that they give not only a diagnostic selection of the group but also a measure of the severity in individual cases, obviating the necessity of arbitrarily deciding whether difficulty in learning to read in a given case is severe enough to determine its inclusion in the category.

As measured by this standard, the number of cases really takes on numerical importance from an educational standpoint. None of our studies were made with the purpose of an accurate numerical survey in mind, but the indications of our records are that children suffering from this condition in a degree sufficiently severe to be a really significant obstacle to school progress formed at least 2 per cent of the total school population in every community visited, while in some this percentage was more than doubled. This striking difference in numbers we feel to be related directly to the teaching methods employed. Of two communities fairly comparable in the constitution of their population, we found the percentage in one to be more than double that of the other. The school system that gave the lower figure used the modern sight reading plan to some extent; but when children did not advance by this method other procedures, including phonetic methods, were used. In the school with the higher incidence, the children were not permitted to learn the alphabet and hence to attempt phonetic synthesis of words until they had learned ninety words by sight. The enthusiasm with which the sight reading methods are hailed in many educational circles is probably justified for those children who have a well established unilateral dominance when they begin to learn to read. In them the acquisition of reading seems to be hastened by the sight method. In the children with a reading disability, however, who apparently form no mean fraction of the whole, this method is obviously unsuited and may, we believe, prove a very serious obstacle.

Our concept of strephosymbolia as a physiologic variant rather than as a general mental defect or a specific brain defect naturally gives a decidedly better prognosis, and there is not only good theoretical basis for the belief that the disability can be corrected and the children taught to read but there is also to be derived from the theory a path of attack for such retraining. If confusion in the direction of reading forms the obstacle to proper association of the presented word with its meaning, the obvious corrective measures should be aimed at in training for consistent direction of reading, which probably infers the consistent selection of one of the paired set of visual engrams for associative linkage with the auditory word memories. One very valuable aid immediately suggests itself here, and that is the inclusion of kinesthetic directional training in the building of associations. In general, the reeducation methods which we propose may be said to be based on training for simultaneous association of visual, auditory and kinesthetic fields; i. e., tracing and sounding the visually presented word and maintaining consistent direction by following the letters with the finger during sound synthesis of syllables and words. This use of the finger seems to be tabu in the modern teaching of reading, and yet it offers a ready means of correcting a tendency to reversals.

Our own retraining experiments are not as yet extensive, but they are exceedingly promising. In one instance, eight children were under individual instruction along the lines here indicated for a period of eight weeks. At the beginning of this experiment the children were retarded in reading below their mental ages on an average of three years. During the six weeks' period, every child of the group gained at least a full year's facility in reading and one gained two years. We have also noted a marked improvement in children's performance in other school subjects as their reading improves under this special instruction.

Another phase of the problem which has interested me tremendously is the relation of a variety of emotional disturbances observed in certain of these children, and the effects which such an unrecognized obstacle to progress in school may have on the personality of the child. In my first series of cases [8] I recorded what I thought to be four types of reaction to the disability: the apathetic, the emotionally blocked, the inferiority pattern and the antagonistic or paranoid. McCready [13] has recorded his support of this grouping, and also reports that he finds the paranoid group furnishing many disciplinary problems in the schools. A further report of our own studies of this phase of the problem is in preparation.[14]

Not infrequently children with marked strephosymbolia are also stutterers. In this connection it is interesting to note that Berkhan [1] has likened the reading disability and the frequently associated writing disability to stuttering. From our envisagement of this difficulty as a confusion in cerebral dominance has come also an hypothesis of stuttering as derived from a comparable difficulty. Reports [15] of our work with stutterers have just begun to appear in print and others are to follow soon. Here, again, retraining experiments are not extensive but some of them are highly sugges-

10. Thomas, C. J.: Congenital Word-Blindness and Its Treatment, Pub. Health, May, 1908.
11. Warburg, F.: Ueber die angeborene Wortblindheit, Ztschr. f. Kinderforsch., 1911, number 4.
12. Bachmann, Fritz: Ueber kongenitale Wortblindheit, Berlin, S. Karger, 1927.
13. McCready, E. B.: Defects in the Language Zone in Children, J. Psychiat. **18**, October, 1926.
14. Orton, S. T., and Sprague, G. S.: To be published.
15. Orton, S. T.: Studies in Stuttering: Introduction, Arch. Neurol. & Psychiat. **18**: 671 (Nov.) 1927. Travis, L. E.: Studies in Stuttering: I, ibid. **18**: 673 (Nov.) 1927; Studies in Stuttering: II, ibid. **18**: 998 (Dec.) 1927. Travis, L. E., and Fagan, Leo: Studies in Stuttering: III, ibid., to be published.

tive. This phase of the work must, however, be left for a later report.

Finally, I think that it can be stated today that the reading disability or strephosymbolia forms a fairly clear cut clinical entity which can be diagnosed by appropriate examination methods; that it is not related to feeblemindedness and may occur at any intellectual level, and that a very considerable degree of prognostic optimism is warranted when proper training is instituted early and is conscientiously carried out.

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ANGINA PECTORIS

TREATMENT WITH PARAVERTEBRAL ALCOHOL INJECTIONS *

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Prior to February, 1927, it had been the custom at the Massachusetts General Hospital to offer cervical sympathectomy as a last therapeutic resort to patients suffering from obstinate and incapacitating angina pectoris. Cases in which such operations were performed are to be reported by Dr. E. P. Richardson.[1] As the results of this operation left much to be desired, we read with great interest the reports of Mandl[2] and of Swetlow,[3] who attempted to block the cardiac pain tracts by paravertebral injections of the upper dorsal nerves of the left side, the former using only procaine hydrochloride, the latter, 85 per cent alcohol. Both reported good results, particularly Swetlow, who described eight cases without bad results and a marked remission of the painful attacks in each instance.

We have to date performed paravertebral alcohol block on the upper five left dorsal nerves in five patients, and have observed these cases for periods varying from four to thirteen months after injection. In spite of an entire absence of any bad complications in our own or in Swetlow's reported cases, we still feel, although to a lesser extent than in the beginning, that the injection of alcohol so close to the pleura and spinal cord is a potentially dangerous procedure. For this reason we have performed it only in the severest cases, on patients who had suffered so much from cardiac pain that they were willing to subject themselves to the procedure with a full knowledge that it was new, potentially dangerous, and might fail to give them any relief. All these details should be carefully considered in every case, at least until injections have been done on a much larger series of patients and until the individual operator is very sure of his technic.

THEORY OF BLOCKING THE CARDIAC PAIN TRACTS

The known anatomy of the cardiac afferent fibers and the previous operations to interrupt these tracts have been reviewed by Swetlow.[3] In brief, the most important routes are by way of the upper, middle and lower cardiac nerves to the cervical sympathetic trunk, and also by way of a large number of fibers coming into the stellate ganglion and still farther down into the dorsal sympathetic chain. Even if the entire cervical sympathetic cord and also the stellate ganglion are removed, the lowest of these fibers will not be interrupted. On the other hand, the chief communications between the cervicodorsal sympathetic chain and the spinal cord are through the rami communicantes of the upper dorsal nerves. It is these rami which we attempt to block by paravertebral injection.

TECHNIC OF PARAVERTEBRAL INJECTION

The technic of paravertebral injection has been discussed so thoroughly in Swetlow's paper[3] and in Labat's textbook on regional anesthesia[4] that we shall only attempt to outline the method in a general way and to give a few additional details which have been worked out in this clinic. The only special equipment necessary to perform paravertebral block is a well made 10 cc. glass syringe and a set of thin, sharp needles from 8 to 10 cm. in length. A small piece of rubber should be transfixed by each needle before sterilizing for use as a marker of depth. With the patient lying on his right side, as for a lumbar puncture, the back of the thorax and shoulders is thoroughly cleaned with alcohol and iodine. With a small cotton pledget dipped in acriflavine, the spinous processes of the upper five dorsal vertebrae are palpated and marked. Acriflavine over tincture of iodine gives instantly a jet-black color and is an excellent sterile marking medium. A second series of marks is made 4 cm. to the left of these spinous processes (fig. 1). A wheal is raised at each of these last points by the intradermal injection of 1 per cent procaine. Through each wheal an 8 or 10 cm. needle is advanced perpendicularly to the plane at the back until at a depth of from 3 to 5 cm. the underlying rib is felt. The needle is then shifted until its tip is felt to slip by the lower edge of the rib. The needle is then rotated so that it points caudally and medially 45 degrees. It is then advanced forward a distance of exactly 2 cm. (This is best measured by using the piece of rubber transfixed by the needle as a marker and setting it 2 cm. away from the skin when the needle point is in contact with the lower edge of the rib.) The tip of the needle which has been inserted in this fashion should be between the external and internal intercostal muscles and close to the intercostal nerve, artery and vein. One of the vessels may easily be injured, in which case blood will drip from the needle. In this event the needle must be withdrawn and reinserted. Our method has been to insert all five needles, to aspirate each to make sure that it contains neither blood nor spinal fluid, and then to inject 5 cc. of 1 per cent procaine. If the needle point has penetrated the pleural cavity, the injection of procaine will make the patient cough. Swetlow[3] connects each needle with a small manometer to make sure that there are no respiratory oscillations. In this event, the position of the needle must be readjusted.

Within ten minutes of the procaine injection there should be anesthesia from the midline in back to the sternum in front and from the fifth intercostal space up to the region where the descending branches of the cervical plexus overlap the three upper ribs (figs. 1 and 2). If the first and second dorsal nerves have been properly blocked there should be good anesthesia of the axilla extending a few centimeters down the arm along with the so-called Horner syndrome—a contracted left pupil and narrowed palpebral fissure.

During this time the five needles have been left undisturbed. As soon as it is apparent that the anes-

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1. Richardson, E. P.: Cervical Sympathectomy in the Treatment of Angina Pectoris, to be published.
2. Mandl, F.: Paravertebral Anesthesia in Angina Pectoris, Wien klin. Wchnschr. **38**: 759 (July 2) 1925.
3. Swetlow, G. I.: Paravertebral Alcohol Block in Cardiac Pain, Am. Heart J. **1**: 393 (April) 1926.
4. Labat, G.: Regional Anaesthesia: Its Technic and Clinical Application, Philadelphia, W. B. Saunders Company, 1922.

thesia is complete, 5 cc. of 85 per cent alcohol is injected into each and the needles are withdrawn.

It is obvious that this procedure requires much practice and that definite harm may result from neglect of any detail. If 5 cc. of methylthionine chloride is injected into a cadaver as here described and then cut down on, the dye will be found to have run about 5 cm. outward along the course of the intercostal nerve and to have diffused centrally into the intercostal foramen, so that it surrounds the sensory ganglion and the rami communicantes of the sympathetic.

Experimental injection into animals shows that 5 cc. of 85 per cent alcohol produces a zone of necrosis only about 2 cm. in diameter. Therefore, in order to obtain a lasting block, the anatomic bearings must be taken with great accuracy in order to get as close as possible to the nerve at the point at which it leaves the intercostal foramen. Practice on the cadaver is an essential preliminary to these injections and should be followed by thorough practice with intercostal procaine injections in as many thoracic operations as possible.

REPORT OF CASES

CASE 1.—E. M., a short, stocky man, aged 54, had an advanced syphilitic aortitis, aortic regurgitation, a blood pressure of 230 mm. of mercury systolic and 60 mm. diastolic, a greatly enlarged heart, and severe angina pectoris. For the past three years he had been suffering from anginal attacks of great severity. These caused a sense of vicelike constriction in the left chest and substernally, with radiation down the left arm. The severity and frequency of the attacks had increased in spite of antisyphilitic therapy, so that at the end of a month in bed in the ward he was having from eight to twelve spells daily. They came on with the slightest excitement or exertion, such as rolling over in bed, and would even wake him up out of a sound sleep.

Feb. 19, 1927, paravertebral injection of 1 per cent procaine, from the first to the fifth dorsal spaces on the left side, was followed by a complete cessation of pain for thirty-six hours. After this, the anginal attacks recurred as before. As this was our first case, we had started with procaine alone. After such a definite remission of the attacks for two days and a night, we were encouraged to try the alcohol block. This was accordingly done two days later by the technic already described. There were no visible bad effects from the alcohol, except for a transient shooting pain along the course of each intercostal nerve for about one minute after its injection. Complete peripheral anesthesia was produced with a very constricted left pupil and drooping eyelid.

The anginal attacks disappeared completely.

At the end of three days, the anesthesia of the anterior divisions of the intercostal nerves wore off and was replaced by hyperesthesia of the skin. One week later this had also occurred in the lateral divisions, and there remained only anesthesia of the back and the Horner syndrome. The hyperesthesia was severe enough to trouble the patient a great deal for a fortnight, and then gradually wore off in the course of a few more weeks.

He was kept in the hospital for two weeks for observation. During the last few days before discharge, he walked around freely and did not notice any trace of the old angina except for occasional slight gas pains in the right upper quadrant. These traveled up into the right chest and disappeared on the administration of 1/200 grain (0.3 mg.) of glyceryl trinitrate.

One month later he wrote about himself as follows:

"April 2. No distress. Slept well.

"April 3. While eating had a touch of distress that seemed like gas. Rested well.

"April 4 and 5. Two very comfortable days and nights. No distress.

"April 6 and 7. Same.

"April 8. Had a very comfortable day. Went outdoors and walked one-half mile away from house and back. Ankles quite lame."

Two and one-half months after the injection the patient wrote:

"May 1. Gas pains seemed to increase in severity and finally lodged in the chest just to the right of the center. Around 11 p. m. one of the old attacks came on, but was wholly right sided. (This was the only one since the injection. It was short, lasting only a few minutes, and not severe.)

"May 3. Had a good day, but felt the gas pains in the stomach; they extended and lodged in the right breast twice during the night. Used two tablets of glyceryl trinitrate.

"May 4. Had a good day.

"May 5, 6 and 7. One light attack Wednesday night. Thursday a good day with no spells at night. Friday a good day, but two spells at night."

Four months after the injection, June 16, the patient came into the outpatient department. He said that he was feeling better all the time, but that gas seemed to accumulate in the right upper quadrant from one to four times a day and to rise into the right side of the chest. It had never crossed to the left of the midline and was always quickly relieved by glyceryl trinitrate. The left pupil was still contracted.

Eight months after the injection, October 13, he felt very well. Blood pressure and heart measurements were unchanged. He continued to have three or four substernal and mild right sided attacks of pain daily for which he took glyceryl trinitrate with relief. He was not at work, but was moderately active, and enthusiastic about his condition. The Horner syndrome had disappeared.

Ten months after the injection, December 29, he continued to show improvement. He still, however, had from two to five right sided attacks a day, mostly on exertion and at once relieved by glyceryl trinitrate. He looked well. He felt that there was fully 90 per cent improvement over his condition a year before. Physical examination and roentgen-ray study did not show any change.

In March, 1928, thirteen months after the injection, he continued to be free from all left sided chest pain, but he entered the hospital again for injection of the right dorsal nerve roots because of annoying but not very severe attacks of right sided angina pectoris, always relieved by glyceryl trinitrate.

CASE 2.—H. T., a Jewish tailor, aged 60, with hypertensive and arteriosclerotic heart disease, aortic regurgitation and angina pectoris, complained of substernal oppression first brought on by running for a street car through heavy snow four years before admission to the hospital. Six months before admission he had been troubled by a severe burning sensation under the sternum which radiated to the back between the shoulder blades. He became very dyspneic for a week. Twelve days later, a similar attack occurred in which he suddenly broke out into a cold sweat and felt dizzy and very weak. Following this he was extremely dyspneic, was afflicted with a steady dull pain under the sternum, and had to be in bed propped up on pillows for three weeks. After this apparent coronary occlusion, he had been too weak to work and had had frequent attacks of severe pain in the precordium brought on by the slightest excitement, by bad dreams, exertion and overeating. These attacks were relieved by glyceryl trinitrate, which he had to take five or six times a day.

He was definitely dyspneic, orthopneic and cyanotic. The blood pressure was 195 systolic and 110 diastolic. The heart was moderately enlarged, and there were loud systolic and early diastolic murmurs clearly audible over the precordium.

May 16, 1927, 6 cc. of 80 per cent alcohol was injected into the second to sixth dorsal spaces on the left side after preliminary procaine anesthesia. Owing to the thickness of the soft tissues over his back, a mistake was made in taking the anatomic landmarks, so that the first nerve was not injected. The anesthesia of the chest wall was satisfactory, but the left pupil was only very slightly constricted. During the first night he complained of a mild pleural pain and raised some faintly blood tinged sputum.

He got up on the second day. That night he had a nightmare which would ordinarily have waked him up with an attack of pain, but he felt none. On the third day he walked one-half mile without precipitating an attack. He was discharged the sixth day without having had an anginal attack.

Two weeks after injection he had a mild substernal pain after running for a street car. It was relieved by glyceryl trinitrate. The skin anesthesia was all gone except over the posterior divisions.

One month after injection he was complaining of pain in the axilla and also of one to three daily attacks of substernal pain. This pain consisted of a sense of oppression and was not half so bad, nor did it come so often, as before injection.

June 23, five and one-half weeks after the first injection, the patient reentered the hospital for one night; the second and third dorsal nerves were reinjected, and the first dorsal nerve was injected for the first time. There was no pain, and he went home again the next morning.

One month, and again four and one-half months (November 3) after this second injection, he was seen in the outpatient department and found to be very definitely improved (at least 50 per cent). He then had two or three mild attacks of substernal pain daily instead of the very severe ones. He took glyceryl trinitrate for these attacks. Otherwise, he was comfortable except for slight hyperesthesia over the left side of the chest. He had resumed light millinery work. He asked for reinjections if he should ever have a recurrence of his severe attacks of pain.

Eight months after the injection, Jan. 5, 1928, he was doing well. He was at least 50 per cent improved. The physical examination did not show any change. There was little hyperesthesia of the left chest.

Feb. 8, 1928, nine months after the first alcohol injection, this patient died while quiet at home shortly after the onset of an attack resembling another thrombosis of the coronary arteries. No postmortem examination was made.

CASE 3.—Mrs. M. K., aged 53, entered the hospital in 1924 for arteriosclerotic heart disease with hypertension. She was beginning to have definite anginal attacks then. These had come on occasionally at rest, and had prevented her from doing her housework. However, the attacks had been mild until one month before her second entrance. Since then there had been two or three daily attacks of very severe pain over the left precordium, with radiation down the left arm. These came on with any exertion or excitement, and occasionally even during sleep. The attacks lasted up to fifteen minutes and were not always relieved by glyceryl trinitrate.

Physical examination showed a much enlarged heart with a blood pressure of 175 systolic and 110 diastolic. There was no heart failure.

June 9, 1927, paravertebral injection of procaine followed by 5 cc. of 80 per cent alcohol in the upper five dorsal spaces on the left side was carried out. This was not followed by any pain or other bad effect. The skin anesthesia was complete, but the left pupil was not contracted. Six days later there was a definite anginal recurrence with pain in the precordium and radiation down the left arm. This was accompanied by a choking sensation and was relieved by glyceryl trinitrate.

June 23, two weeks after the operation, the patient showed a recurrence of the attacks of angina pectoris at the rate of two or three daily, always relieved by glyceryl trinitrate. Also she was having new pains as a result of hyperesthesia and paresthesia over the left chest, more in the back. She was very nervous and discouraged. However, she had always been nervous and discouraged, and it was very difficult to decide to what extent the symptoms were dependent on exaggerated sensitiveness of the nervous system. On physical examination she looked well. The blood pressure was 190 systolic and 115 diastolic. The pulse was regular at 96. There was no evidence of congestive failure.

One month later, about six weeks after the injection, the attacks of angina pectoris had greatly increased in frequency, severity and duration, always relieved by glyceryl trinitrate, until there was a very severe prolonged attack of pain from 12 midnight until 6 a. m. unrelieved by glyceryl trinitrate and requiring two injections of morphine. Although this seemed, from the duration of the pain, an attack of coronary thrombosis, the patient remained in bed only two days and did not have any fever. She was not in the hospital at this time. After this attack she improved.

October 26, four and one-half months after the injection, she reported feeling rather poorly and having about one attack of typical angina pectoris daily, coming at any time and relieved by glyceryl trinitrate. The hyperesthesia had all gone except for a slight prickling sensation in the left shoulder. The patient had not taken digitalis and there was no evidence of congestive failure. She was up and around, living a quiet life. Physical examination showed her looking apparently well, with a blood pressure of 180 systolic and 100 diastolic, and with a regular pulse at 79. There was moderate cardiac enlargement as before, with accentuation of the aortic second sound and a slight aortic systolic murmur. There was no edema. Although the attacks were somewhat fewer than before the operation, this patient certainly did not obtain any real benefit. She did not show the Horner syndrome.

Jan. 10, 1928, seven months after the injection, the patient showed little change, still having two or three attacks of rather mild left sided angina pectoris during twenty-four hours, more at night, quickly relieved by glyceryl trinitrate. A very large nervous element made it difficult, however, to judge her condition satisfactorily. She had a good deal of heartache, palpitation and nervousness not of cardiac origin. At times

Fig. 1.—Posterior view in case 1: Figures in midline indicate the upper five spinous processes; dots 4 cm. to left, points of injection; cross markings, area of skin anesthesia.

when she was diverted, as in attending a wedding or out walking on a pleasant day, she had no trouble at all. For a week recently she had had a bad cold and had felt more nervous. The menopause a year previously and her general nervous state made her a rather unsatisfactory subject for decision as to the value of the alcohol injection. However, it was felt that she had received little, if any, benefit from the treatment.

CASE 4.—G. E. B., a man, aged 54, American, a truck driver, began to have severe but infrequent attacks of angina pectoris four years before admission to the hospital. A year before entrance he lost money and noticed that with the worry his cardiac attacks increased greatly in frequency. On admission, he was having from twelve to fifteen severe attacks daily. These were brought on by worry, overeating or walking (especially against a cold wind). The pain radiated to both shoulders and down both arms, although it was much worse on the left side. It was relieved by glyceryl trinitrate, but nevertheless rendered the patient a complete cripple.

The patient was robust and evidently was used to hard physical work. The heart was slightly enlarged; the arteries tortuous, and the blood pressure 135 systolic and 90 diastolic.

July 22, 1927, the usual paravertebral injection of the upper five left dorsal nerves with 5 cc. of 1 per cent procaine in each was followed by 5 cc. of 85 per cent alcohol. The

patient developed severe pain in the back which lasted a half hour, as well as a slight pleural pain on deep inspiration. Anesthesia was complete; the left pupil was markedly contracted, and the upper eyelid sagging. The patient got up the next morning and went home on the second day.

Two weeks later he came into the outpatient department with a moderately severe hyperesthesia of the left side. There had not been a single anginal attack on the left side, although when he overexerted himself there was pain in the upper right side of the chest. He was a little cyanotic and was tiring too easily to do much.

One month after the injection he was greatly troubled by the hyperesthesia, which for a week or two bothered him nearly as much as the previous angina pectoris.

Two months after the injection (September 29), the hypersensitiveness of the skin on the left side had entirely gone. He was driving his truck and never felt any pain on the left side. If he overexerted himself he would precipitate a mild to moderate attack of pain to the right side of the sternum, which radiated out toward the corresponding shoulder but never crossed to the left. This had bothered him considerably. The left pupil was still definitely contracted.

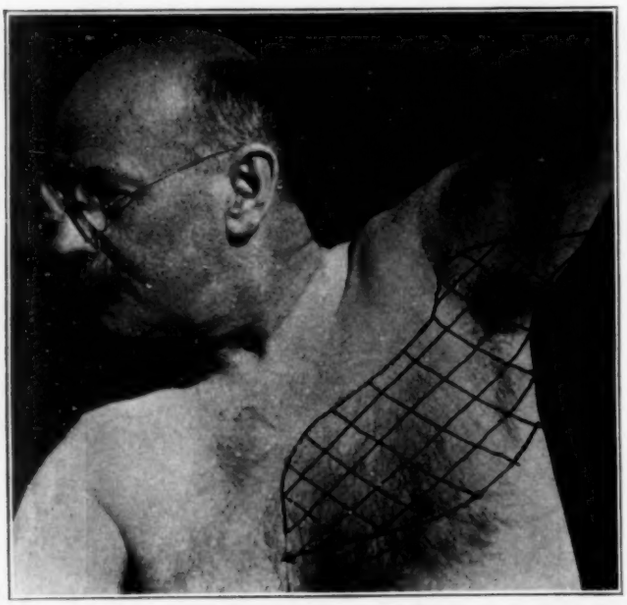

Fig. 2.—Anterior view in case 1 after injection to show distribution of skin anesthesia over thorax and axilla.

Five months after the injection, Dec. 26, 1927, there was little change in his condition. He was still completely free from any left sided pain, but he frequently had attacks of oppression in the right side of the chest and right side of the neck. He used from twelve to fifteen tablets of glyceryl trinitrate daily, but had kept at work driving a truck. He complained of shortness of breath, for which he had used digitalis. Numbness had persisted in the left side of the chest and shoulder, and the left pupil was still small. It has been suggested to him that the nerve roots of the right side be injected also if the attacks of oppression in the right side of the chest become worse or prevent him from working.

CASE 5.—E. C., aged 59, an American ironworker, entered the hospital a year before his admission in 1927 because of arteriosclerotic heart disease with hypertension and myocardial insufficiency. At that time he had a definite attack of coronary thrombosis in the ward. Since then any fast walking or overeating had brought on typical and most severe anginal attacks for which he had had to take glyceryl trinitrate once or twice daily.

He was short and stocky, and physical examination did not show any evidence of congestive failure. The heart was not enlarged, but the sounds were of poor quality. The blood pressure varied from 130 to 230 systolic and from 65 to 110 diastolic.

Aug. 12, 1927, paravertebral injection of procaine into the upper five intercostal spaces on the left side was followed by injection of 6 cc. of 85 per cent alcohol in each. Immediately after the injection the patient complained of an unusually severe left sided pain and faintness. The pain was not entirely relieved by glyceryl trinitrate and lasted nearly thirty minutes. During this period the pulse could not be obtained at the wrist. There was also marked pallor of the left side of the face and forehead, with cyanosis of the opposite side. The left pupil was very constricted and the upper eyelid drooping. Within an hour the blood pressure had returned to normal. As the effect of the procaine wore off, the Horner syndrome vanished entirely, and the skin anesthesia itself remained incomplete over the anterior divisions.

Just what was the cause of this reaction immediately after injection it is difficult to say. One of the needles punctured an intercostal vessel and it was then carefully reinserted, without any blood being aspirated. If, in spite of this precaution, the procaine was partly injected into the vessel, it could well account for his faintness and the fall in blood pressure. In these respects the condition was quite compatible with a typical procaine reaction and cleared up in the proper length of time. This, however, would not explain the intense left sided pain, which appeared to be cardiac in origin.

The patient remained in the hospital for four days, during which time he had four mild anginal attacks. At the time of his discharge we were afraid that he had not been definitely benefited and felt that, although the procaine injection had been adequate, the alcohol had not penetrated to a sufficient depth.

A fortnight later, however, the angina had entirely disappeared. Anesthesia remained only in the posterior divisions. The patient was much troubled by constant shooting pains in the precordium, which were not affected by glyceryl trinitrate and which we attributed to irritation from the alcohol.

When seen two months after the injection, he said that he had not been using glyceryl trinitrate at all. The hyperesthesia had bothered him badly for two weeks and then had gradually left him. He had been walking several miles a day and noticed only an occasional suggestion of his old pain.

November 3, nearly three months after the injection, the patient was seen in the outpatient heart clinic. The hyperesthesia from the injection had largely subsided, but there had been a recurrence of the angina pectoris. The attacks of pain were less severe than originally, but he was growing dyspneic on exertion. He was not working. There was an apical protodiastolic gallop rhythm on exertion. The blood pressure was 180 systolic and 115 diastolic. The electrocardiogram showed normal rhythm at a rate of 95, with a diphasic T wave in lead II and left axis deviation. He was taking glyceryl trinitrate and also digitalis, 1½ grains (0.1 Gm.), a day.

Dec. 8, 1927, nearly four months after the injection, he was examined again and found to be somewhat improved. He was still, however, unable to walk much without the pain of angina pectoris, and never uphill. There was slight numbness of the anterior chest wall. He felt that the alcohol injection had not benefited him very much.

COMMENT

We must admit that we approached these injections with considerable apprehension and not a little skepticism, but Swetlow's series, treated by alcohol injection, showed such consistently good results that we were much interested in giving the method a thorough trial. We were unusually fortunate in our first patient, as he was intelligent, very cooperative, and of a highly stable mental make-up, with a tendency neither to apprehension nor to undue enthusiasm. His angina pectoris was of such extreme severity that the improvement following injection was most dramatic.

The only troublesome complication was the hyperesthesia that appeared in every case as the anesthesia receded. This most annoying symptom is scarcely mentioned in Swetlow's paper,[8] but in our cases varied from a mild hypersensitiveness of the skin over the

area of distribution of the injected nerves to distinct soreness on pressure of the clothing and shooting pains with spasmodic twitching of the intercostal muscles. In cases 1 and 4, this condition was as troublesome as the angina pectoris itself for a week or two. It fortunately soon wore off in every case. The characteristic sequence of events was usually complete numbness for a week, and then loss of anesthesia of the anterior divisions of the intercostal nerves. Within a fortnight the lateral divisions were regaining sensation, and before a month had elapsed all peripheral anesthesia had been lost. When the nerves began to function again they were always hyperesthetic, so that during the period from two to six weeks following the injection each patient was in considerable discomfort.

Although anesthesia of the peripheral nerve was lost with relative rapidity, the sympathetic effect, as shown by the contracted pupil, was of prolonged duration (seven months in case 1). It would therefore seem that while the alcohol did not have sufficient penetrating power to destroy the heavily sheathed peripheral nerve, it could still produce complete necrosis of the delicate sympathetic rami. The peripheral nerve is probably involved only in a transitory edema from which the central fibers to the anterior divisions recover first and the superficial fibers to the posterior divisions last.

What the total duration of relief from pain will be in the successful cases we have no way of telling. The first patient in our series is still doing extremely well at the end of thirteen months. Of course, the expectation of life is not in any way increased by the relief of the anginal pain, and it is therefore unlikely that in these extremely severe cases the duration of life will be long (note case 2). There is no reason for not performing a second injection, and two of our patients have already asked that it be done in case their severe attacks recur.

Injection on the left side has not had any effect on cardiac pain referred to the right side of the chest, as shown in cases 1 and 4.

It is also interesting to note in patients 1 and 4, who both showed an entire relief of left sided pain, that there was a complete block of the sympathetic pupillary dilator fibers. This of course means that the upper sympathetic rami have been affected and is a very favorable sign. The others, who did not develop a Horner syndrome, showed a diminution but not a total relief from their attacks of pain.

CONCLUSIONS

1. In five of the most severe cases of angina pectoris admitted to the Massachusetts General Hospital during a period of seven months, paravertebral alcohol injections were given in the upper five intercostal nerves on the left side.

2. Two patients showed complete relief from the left sided anginal attacks but a continuance of mild to moderate crises on the uninjected side. Two others had their very severe attacks converted into milder and less frequent attacks. The fifth patient was apparently helped only for a few days. To date, the relief may be said to be valued at 90 per cent in one case, 75 per cent in one, 50 per cent in one till his death nine months later from coronary thrombosis, 25 per cent in one and 0 per cent in one.

3. There have not been any harmful complications, but all the patients have complained more or less of hyperesthesia of the injected nerves lasting from two to four weeks.

MECHANICALLY STIMULATED VENTRICULAR EXTRASYSTOLES IN MAN*

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The classic designation of extrasystoles or premature contractions into "right and left ventricular" is universally accepted by physiologists and cardiologists. It is thought that a premature contraction consisting first of a downward and finally of an upward phase in leads II and III is a left ventricular extrasystole, and that when the first phase is upward and the second is downward, it is a right ventricular premature contraction. Numerous observations made on animals seem to confirm this hypothesis, but it has not heretofore been practical to attempt to ascertain with accuracy the points of origin of extrasystoles in the human heart, for it has been only on rare occasions that this organ has been exposed in such a manner as to permit artificially provoked premature contractions. Oppenheimer and Stewart[1] state that at the present time such locations cannot be accurately determined in the human heart.

Fig. 1.—Subject of experiments: Line *A-B* corresponds to lower cardiac border.

Extrasystoles have been elicited in man by direct stimulation of the cardiac surface by August Hoffmann[2] in 1913 and by Oppenheimer and Stewart in 1925. They experimented on the human heart with its left border partially exposed and covered only with soft tissue. In the two instances seemingly the same region

* From the Cardiographic Laboratory of Hotel Dieu.

1. Oppenheimer, B. S., and Stewart, H. J.: Dependence of the Form of the Electrocardiogram upon the Site of Mechanical Stimulation of the Human Heart, J. Clin. Investigation, 7: 565 (Feb.) 1927.

2. Hoffmann, August: Ueber künstliche Auslösung von Arhythmien in gesunden menschlichen Herzen, Med. Klin. 9: 2025, 1913.

of the organ was available for experimentation. Electrical and mechanical stimulation by means of a light percussion hammer was applied by Hoffmann, and the hammer alone was used by Oppenheimer and Stewart.

Fig. 2.—Sagging of the heart when the subject is in a stooped position.

An exceptional opportunity for the study of premature contractions in man was afforded in a subject with a congenital malformation of the sternum, in which the whole frontal portion of the heart was practically exposed, for it was covered only by its pericardium and a thin layer of skin. The electrocardiographic observations made on this individual contradicted the present hypothesis of right and left ventricular extrasystoles, for they proved that the major upward and downward deflections of the premature contractions depend on whether the point of stimulation is located in the apical or basal portion of the ventricle.

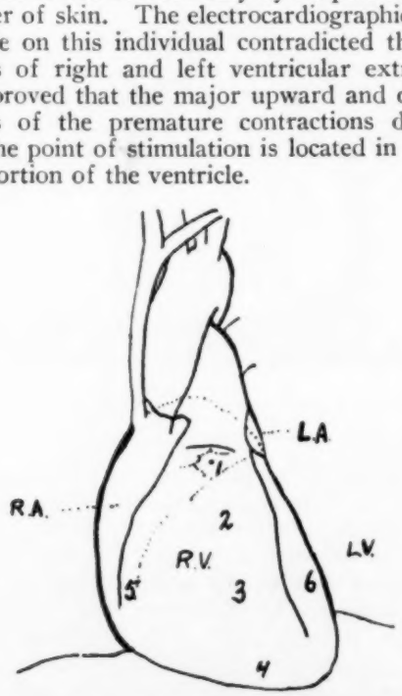

Fig. 3.—Silhouette area of the heart of a slender man; after Bardeen. Numbers indicate sites of points stimulated.

SUBJECT OF OBSERVATIONS

The subject is a creole of Louisiana, aged 39, weighing 136 pounds (61.7 Kg.), 5 feet 8 inches (173 cm.) tall, married and with four children, the oldest 18 and the youngest 8 years of age. The children are normal and are not deformed in any way. He was a farm laborer but now gives public exhibitions as a freak.

He is the oldest of a family of twelve. His sisters and brothers are well developed, and are normal in every respect; he is the only deformed member of the family. He has always been healthy. He played and worked with the same endurance exhibited by healthy children, and he was never in any way affected by his deformity.

He feels absolutely well and is in no way inconvenienced by his heart, nor does he present any symptoms of the slightest cardiac deficiency. The blood pressure is 95 systolic, and 45 diastolic. The pulse is regular. The radial arteries are contracted.

This low blood pressure, despite the fact that the heart is normal in size and strength and that the electrocardiogram shows a left ventricular preponderance although it is extremely vertical in its position, confirms my theory that essential hypotension may be caused by an attenuation of the great blood vessels and a drop heart.[3]

The heart sounds are difficult to auscultate because of the movements of the heart and the lack of a solid surface on which to repose the bulb of the stethoscope, but, as far as it can be determined, they are normal. There are visible and palpable pulsations in the suprasternal notch.

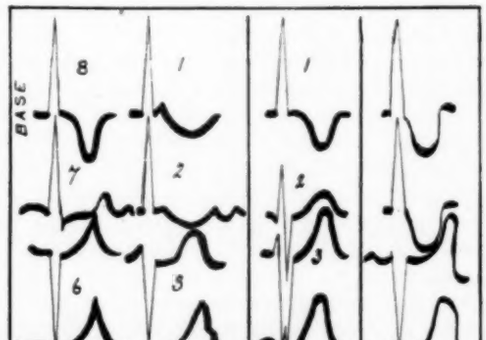

Fig. 4.—Mechanically elicited premature contractions in man and dog: *A*, by Oppenheimer and Stewart; *B*, by the author; *C*, by Rothberger and Winterberg.

The sternum is abnormally shortened to about one-half its length. This may be the result of an arrested development of the fourth center of the sternum in the fetus, which gave a gladiolus only about half its normal length. The substernal costal angle is obtuse. The triangular space formed by the costal borders measures about 4 cm. at its apex, which is immediately below the sternum, and 10 cm. at its base, which corresponds to a line drawn from the lower costal borders in the midepigastric region, and which is about 13 cm. from the lower border of the sternum. It is in this opening that the heart bulges out approximately 3 cm. (fig. 1).

The cardiac pulsations are plainly visible. The heart is covered only by its pericardium and a thin layer of skin which approximates the thickness of that of the dorsal surface of the hand, and which can be as easily pinched up and rolled over the organ as the skin over the hand. The thinness of the skin is demonstrated by the sagging of the heart when the subject is in a stooped

3. Fossier, A. E.: A Cause of Essential Hypotension, Am. J. M. Sc. **171**: 496 (April) 1926.

posture (fig. 2). The heart is totally deprived of its bone protection. It is hanging and is supported only by the great blood vessels. Its position is an extremely vertical one. It is not located in the abdomen but is situated above the diaphragm. The abdominal wall is normal, and its muscles are well developed. All the organs are apparently normal, and the urine and blood are normal. The Wassermann reaction is negative. The patient is enjoying good health.

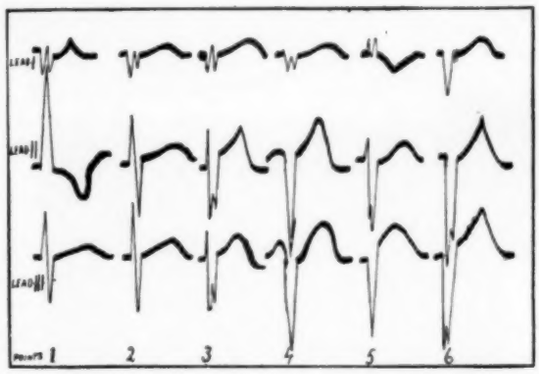

Fig. 5.—Premature contractions elicited from points 1 to 6. Points 1, 2, 3, 4 and 5 are over the right ventricle; point 6 is over the left ventricle.

METHOD OF DETERMINING ORIGIN OF EXTRASYSTOLES

As the anterior portion of the heart of this person is exposed, its borders are easily delineated. The apex is readily felt; in fact, a large portion of the heart can be held in the hand. The heart measures approximately 7.5 cm. at its greatest width. Not only are the cardiac movements seen and felt, but it is easy to differentiate the auricular and ventricular pulsations, and to demarcate the right ventricle from the right auricle.

Six points were marked out on the heart. Four of these points were spaced from base to apex on the median line of the cardiac area. Point 1 is at the base, at or very near the root of the pulmonary artery; point 2, 3 cm. below point 1; point 3, 3 cm. below point 2, and point 4, 3 cm. below point 3, and at the apex. Point 5 is to the extreme right border on a level with point 3, and point 6 is to the extreme left border on the same plane as points 3 and 5 (fig. 3).

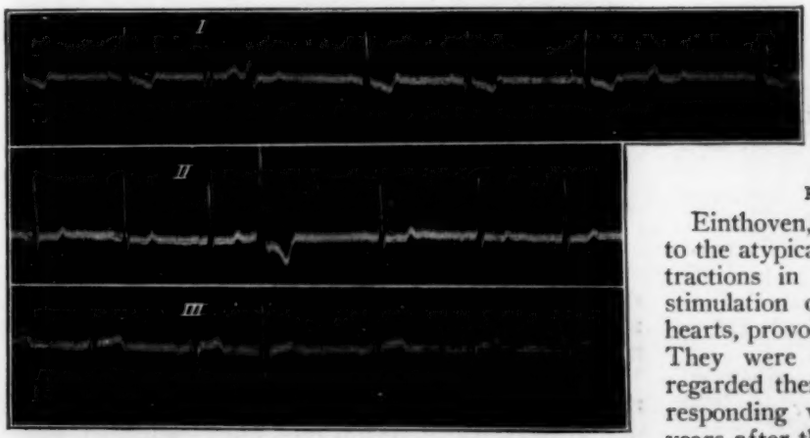

Fig. 6.—Point 1: base of right ventricle.

There should not exist any reasonable doubt as to the identity of the locality of these points. Point 1 is localized on the upper border of the right ventricle at or near the root of the pulmonary artery; points 2, 3, 4 and 5 are over the right ventricle, and point 6 is over the right border of the left ventricle. The heart is practically normally situated, but is vertical. The topography of its chambers is relatively the same as that of the heart of a very slender man of the asthenic type.

The visibility of the heart movements, the ease with which it may be palpated, and the accuracy with which its component parts may be distinguished, permit me to attest to the correctness of the identity of the ventricles stimulated.

When one tapped lightly on each one of these points with a percussion hammer, premature contractions were elicited. All possible care was taken to make the same stroke in every instance. The hammer was held close to the chest by the extreme tip of the handle, and the head was allowed to drop from a distance of about 6 inches. The rubber tip of the hammer, which is encased in metal, is about 0.5 cm. in diameter, and its head weighs 1½ ounces. The length of the hammer is about 6 inches.

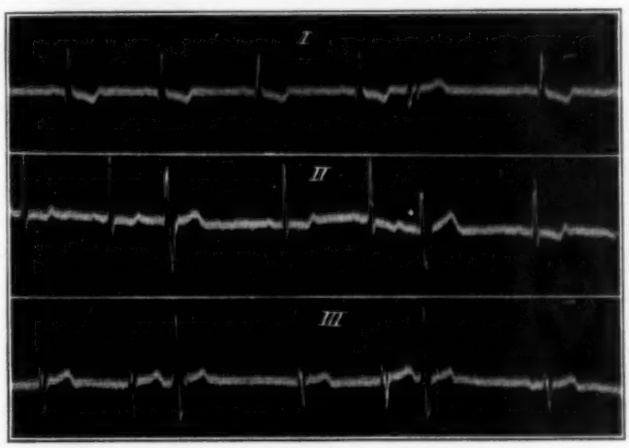

Fig. 7.—Point 2: right ventricle.

The electrocardiograms were made on the patient in the sitting posture, and the leads were taken in rotation. The tapping did not cause him any inconvenience, nor did he experience the usual sensation resulting from extrasystoles. Only once when a harder stroke was made did he object and complain of pain, and this stimulation resulted in two premature contractions occurring in succession (fig. 10).

REVIEW OF THE LITERATURE

Einthoven,[4] in 1907, was the first to direct attention to the atypical complexes of ventricular premature contractions in man. Kraus and Nicolai,[5] through the stimulation of the right and left ventricles of dogs' hearts, provoked oppositely directed diphasic complexes. They were the first to recognize these types, and regarded them as expressing isolated beats of the corresponding ventricle (hemisystoles). In 1910, three years after they advanced this hypothesis, it was found untenable, and was modified by the writers themselves. They divided electrocardiographic curves of ventricular

4. Einthoven, W.: Le télécardiogramme, Arch. internat. de physiol. 4: 132, 1906.
5. Kraus, F., and Nicolai, G. F.: Ueber des Elektrokardiogramm unter normalem und pathologischen Verhältnissen, Berl. klin. Wchnschr. 44: 765, 811 (July 1) 1907.

extrasystoles, induced experimentally in dogs' hearts, into three fundamental types: type A, which resulted from stimulation of the apex; type B, which resulted from stimulation of the base, and type C, in which polyphasic curves were obtained midway between the apex and the base. Their conclusions were contradicted by Kahn [6] in 1909, for he asserted that the difference in the types of extrasystoles depended on which ventricle, right or left, had been stimulated.

Rothberger and Winterberg,[7] in 1911, in their experiments in the dog, stimulated a series of points spaced on the left ventricle from base to apex. From points

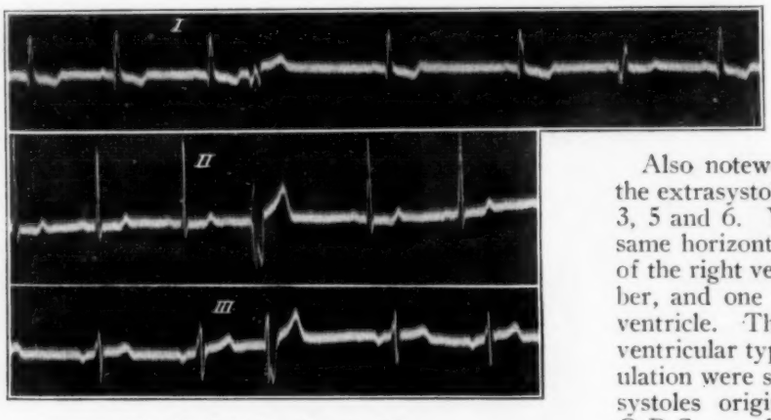

Fig. 8.—Point 3: right ventricle.

over the base they obtained premature contractions in lead III with upright main deflections, and over the apex inverted main deflections (fig. 4 *C*).

Lewis [8] says that, if the apex of a left ventricle is stimulated, the corresponding axial electrocardiogram is in the main diphasic, consisting first of a downward and finally of an upward phase; and if the base of the right ventricle is stimulated, the first phase is directed upward and the second, downward.

Experimental provocation of extrasystole in man was first made by Hoffmann,[2] and recently by Oppenheimer and Stewart.[1] In either case the ribs were resected for empyema, and the left border of the heart was covered only by soft tissue. The stimulation was applied by tapping with a percussion hammer, and also by electrical stimulation by Hoffmann. Hoffmann asserted that the stimulation of various points always elicited the same electrocardiogram; that is, the chief deflection was inverted in lead I and was upright in lead III, and was similar to that resulting from a right bundle branch lesion.

Oppenheimer and Stewart conclude that the terminology which is in current use seems to be justified; that is, to consider ventricular premature contractions, the main deflections of which are upright in lead III, as originating in the right ventricle; and those, the first main deflections of which are inverted in leads III, as originating in the left ventricle.

For a more thorough review of the literature, the reader is referred to the work of Rothberger and Winterberg,[7] and of Oppenheimer and Stewart.[1]

6. Kahn, R. H.: Ueber anomale Herzkammerelektrogramme, Zentralbl. f. Physiol. **24**: 728, 1910.
7. Rothberger, C. J., and Winterberg, H.: Studien über die Bestimmung des Ausgangspunktes ventrikulärer Extrasystolen mit Hilfe des Elektrokardiogramms, Arch. f. d. ges. Physiol. **154**: 571 (Nov.) 1913.
8. Lewis, Thomas: The Mechanism and Graphic Registration of the Heart Beat, ed. 3, London, Shaw & Sons, Ltd., 1925, p. 159.

RESULTS OF MECHANICAL STIMULATION

Premature contractions of the ventricular type were obtained in the three standard leads by tapping points located over the right and left ventricles. Tapping the same points, at different times, during the course of a month, gave like extrasystolic deflections. With the exception of the premature contractions elicited at point 1, the extrasystoles in leads II and III, presented similar deflections from all the other points of stimulation. In lead I, all the major deflections of the premature contractions were in a downward direction, excepting those at point 5. It is interesting to note that, although these points were located over the right ventricle, with the exception of point 6, which is over the right frontal border of the left ventricle, every extrasystole, excepting the one in lead II, at point 1, was of the left ventricular type (fig. 5).

Also noteworthy of observation is the similarity of the extrasystolic deflections in leads II and III at points 3, 5 and 6. Yet these three points are situated on the same horizontal plane, one at the extreme right border of the right ventricle, one over the midline of that chamber, and one on the right anterior border of the left ventricle. These premature contractions are of the left ventricular type, despite the fact that the points of stimulation were situated over both ventricles. Only extrasystoles originating from these points gave notched Q-R-S complexes. The voltage of the T wave was about the same in all instances (figs. 8, 10 and 11). The premature contractions provoked at point 1 gave an upward deflection in lead II and a diphasic one in lead III, and from point 2 the major deflections are diphasic in leads II and III (figs. 6 and 7). The major deflections of the extrasystoles from point 3 are slightly transitional in type, and the downward deflections are notched in leads II and III (fig. 8). At point 4 the major deflections are downward and slurred (fig. 9).

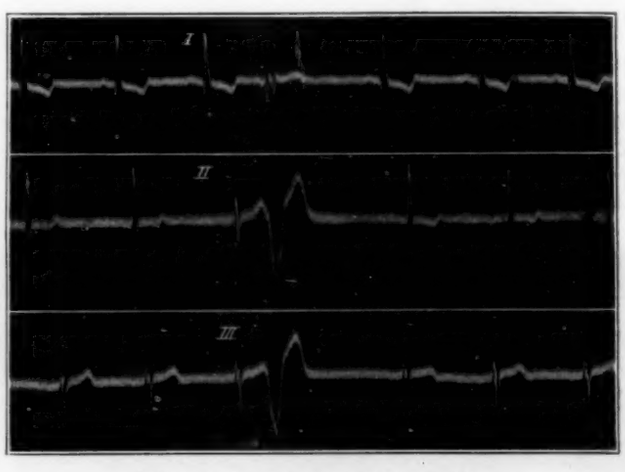

Fig. 9.—Point 4: apex of right ventricle.

If this series of curves is examined, it will be noticed that it confirms the observations made by Lewis [9] on the dog; namely, that no two points, when stimulated, yield precisely the same resultant curve; that an infinite variety of forms may be obtained from one and the same heart, but that if two points lie close together, the corresponding curves resemble each other, and the resem-

9. Lewis: The Mechanism and Graphic Registration of the Heart Beat, p. 212.

blance is the greater the nearer the points approach each other, and that the stimulation of a given point always yields the same ventricular curve.

COMMENT

The electrocardiograms illustrating the thesis of Oppenheimer and Stewart reveal a most striking similarity to the curves submitted in this paper, although in the former the left ventricle was stimulated, and in the latter the right ventricle. It is logical to suspect that the effects produced by experimental stimulation in the dog heart by Rothberger and Winterberg [7] have been repeated in man by Oppenheimer and Stewart [1] and by

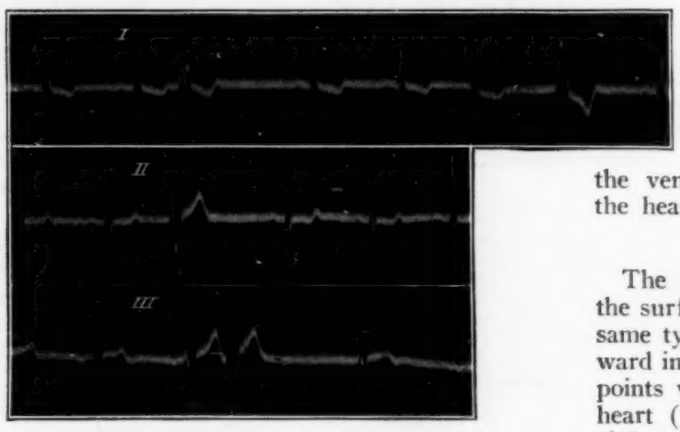

Fig. 10.—Point 5: right border of right ventricle.

myself. The possibility of having done so occurred to Oppenheimer and Stewart, because they write:

> It is possible, although improbable, that we repeat in the human subject that part of their experiment [Rothberger and Winterberg's] on the dog in which they stimulated a series of points on the left ventricle in a line from base to apex. On stimulating the base, they obtained ventricular premature contractions in which the first main deflection was inverted in lead I and upright in lead III; on stimulating the apex, they obtained ventricular premature contractions in which the first main deflection was inverted in both leads; and on stimulating an intermediate zone, they obtained premature contractions transitional in type. The fact that our curves resemble in direction the three types yielded by the left ventricle of the dog makes it necessary to consider whether our case and their experiments are analogous, that is to say, whether we also stimulated points on the left ventricle only, and that stimulated on the left ventricle yields ventricular complexes in which the first main deflection is also upright in lead III.

They go on to say, however, that the question remains undecided, whether both left and right ventricles yield similar complexes at their bases, although it is improbable that they should do this (fig. 4 *A*).

Lewis [10] observed from his experiments on dogs that, if the apex of the left ventricle is stimulated, the corresponding axial electrocardiogram is the main diphasic one, consisting first of a downward and finally of an upward phase. If the base of the right ventricle is stimulated, the first phase is directed upward and the second downward. He makes the statement that, clinically, the curves of ventricular extrasystoles vary in form from case to case, but fall for the most part into two chief categories, the right and the left type, and that it is not difficult to choose from collections of curves clinical and experimental examples closely resembling each other. However, he feels that more than an approximate localization of the spontaneous beats is impossible at present, for only the dog's heart has been investigated from this point of view, and the lie of the heart and the arrangements of the Purkinje strands in this animal and in man differ materially.

The similarity of the curves of Rothberger and Winterberg and of Lewis, obtained from the dog's heart, to those of Oppenheimer and Stewart and myself, obtained in man, is apparent. The fact is established that, irrespective of which ventricle is stimulated, extrasystoles of a right ventricular type were provoked from points over the base of the heart, and of a left ventricular type from points over the apex (fig. 4). Oppenheimer and Stewart, by stimulating the surface of the left ventricle, obtained extrasystoles similar in character to those I have obtained by stimulating the right ventricle. The difficulty encountered by these authors was their inability to verify the ventricle exposed to stimulation at the base of the heart.

SUMMARY AND CONCLUSIONS

The premature contractions elicited by stimulating the surface of the right and left ventricles were of the same type; that is, the spiked deflections were downward in leads II and III from points 3, 5 and 6. These points were located at the lower third portion of the heart (fig. 5). Stimulation of the upper part of the right ventricle, at or near the base of the pulmonary artery, provoked extrasystoles with their main deflections upward in lead III (fig. 6). In the interjacent region, the points of stimulation yielded a complex of intermediate type, with the main deflections diphasic (points 2 and 3, figure 5).

The results of these experiments on the human heart, the first reported in which that organ was easily accessible to experimental stimulation of its right and left ventricles, and in which there cannot be any reasonable doubt as to the identity of the cardiac chamber experimented on, conclusively proves that premature contractions, the main deflections of which are upright in lead II and III, originate from the base of the heart, and those, the first main deflections of which are inverted, originate from the apical region. Besides, complexes of an intermediate type originate from points of stimulation situated in the interjacent region between the base and the apex.

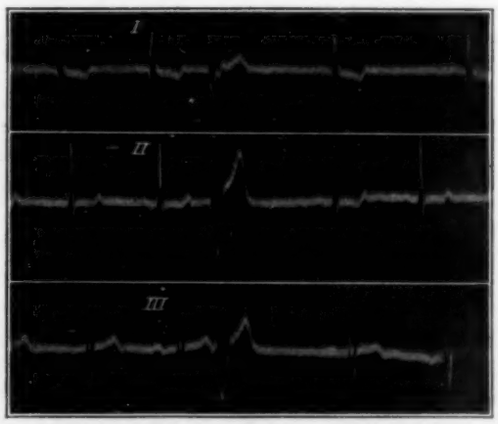

Fig. 11.—Point 6: right border of left ventricle.

10. Lewis: The Mechanism and Graphic Registration of the Heart Beat, p. 218.

The present nomenclature of right ventricular extrasystole and left ventricular extrasystole is misleading and erroneous, and I suggest that it should be changed to apical extrasystole, basal extrasystole and intermediate extrasystole. This suggested appellation is indicative of the location of the points of stimulation from which different types of premature contractions originate.

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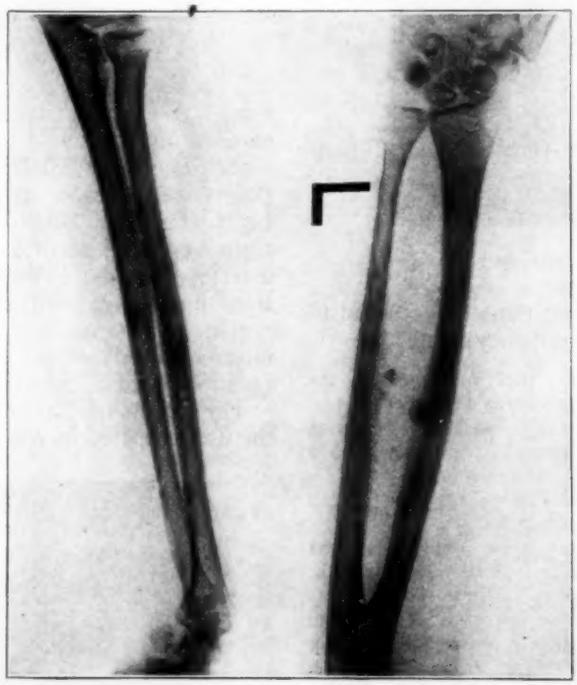
CALCIFYING HEMANGIOMA *

HERMAN F. JOHNSON, M.D.
OMAHA

Angioma as defined by Ewing [1] is a tumor composed of newly formed vessels. It can be classified as hemangioma or lymphangioma, depending on whether the neoplastic growth originates in the blood or lymph vessels. The hemangioma may be of four histologic varieties: [2] (1) capillary and progressive, (2) arterial, (3) venous and (4) cavernous. This summary will be limited to the deep angiomas of the venous type with calcification.

Their origin has been a matter for discussion. They are generally considered as congenital or of early development as a result of an anomaly in the structure of certain vascular segments that do not fit into the circulatory system. However, Lowenthal [3] has obtained a traumatic history in many cases. In a review of the cases reported in the literature, the extremities were found to be the regions most frequently involved.



Appearance of forearm, showing calcified bodies.

The growth of the angioma occurs as a result of mechanical factors. Increase of blood pressure, loss of muscular and elastic tissue in the new or altered vessels, and loss of support to the vessel walls from changes in the surrounding tissues tend to favor new growth of vessels and dilatation of their walls. The growth of the tumor may be so extensive as to produce erosion of neighboring osseous tissue.

The structure of the tumor is that of a series of anastomosing vascular channels inclosed by thin septums. Microscopically, the walls are similar to those of venules. The process of calcification is unusual and develops as a result of, first, thrombosis in the dilated sinuses, then fibrosis, and finally calcification. The calcified bodies vary in size from that of a millet seed to 1 cm. in diameter. In the roentgenogram they appear as round or oblong bodies with concentric rings very similar to encysted parasites, notably *Trichinosis*. Some of these bodies have been found completely separated from the pouching dilated venous spaces, lying in the intramuscular septums. On section, the center contains degenerated fibrous tissue, while at the periphery calcification takes place in layers inside a capsule of fibrous tissue.

The incidence of the condition is small, judging from the literature. In 1916, Ruggles [4] discovered by roentgenographic examination calcified deposits in the soft tissues in the forearm of a patient referred for possible fracture. The forearm had been bowed and somewhat enlarged since she was 1 year of age. At the time of examination the patient was 28, and her chief complaint was a sense of weakness in the left arm. Roentgenographic examination showed scattered through the soft parts numerous calcified masses varying in size from 1 mm. to 1 cm. in diameter. They were cystlike structures and histologically were found to be calcified masses. The diagnosis rested between parasitic disease, phleboliths, neuromas or small calcified hematomas. In a second article, dated 1919, he [5] definitely considered the condition to be a calcification of thrombi in loops of cavernous hemangioma. At this time he reported five cases in which a positive diagnosis had been made. He mentioned the possibility of the growth existing in the liver and intestines with similar roentgenologic observations.

Wakely,[6] in 1921, was able to find only one reference to the condition, and that was in American literature. He reported two cases in detail, in one of which hemorrhage at operation was extensive. From study of a section of a calcified body he considered the sequence of events in its formation to be thrombosis, fibrosis and finally calcification. The second patient returned five weeks after excision of the tumor mass in the region of the knee with a myositis ossificans at the site of the incision. This disappeared in six weeks under rest.

Ravold,[7] in 1924, reported a case identical with the condition seen in our patient. Louis Dunn [8] emphasizes the importance of roentgenographic examination in these obscure cases and considers the presence of these round concentric calcified bodies in a tumor as characteristic of hemangioma.

The symptoms are those of pressure on surrounding tissues with referred pain. There is occasionally a fusiform swelling, which is tender. The overlying skin as a rule is not discolored, for the tumor is deep seated.

* From the Orthopedic Department, University of Nebraska College of Medicine, Clinic of Drs. Lord, Schrock and Johnson.

1. Ewing, James: Neoplastic Diseases, ed. 2, Philadelphia, W. B. Saunders Company, 1922.
2. Muscatello: Virchows Arch. f. path. Anat. **135**: 277-279, 1894.
3. Lowenthal: Arch. f. klin. Chir. **49**: 267-367, 1895.
4. Ruggles, H. E.: Calcified Deposits in the Soft Tissues of the Forearm, Atlas Stereoroentgenol. **3**: 82 (Dec.) 1916.
5. Ruggles, H. E.: Calcification in Angiomata, Am. J. Roentgenol. **6**: 512 (Oct.) 1919.
6. Wakely, C. P. G.: Calcification in Angiomata, Arch. Radiol. & Electroth. **25**: 363 (May) 1921.
7. Ravold, H. J.: Hemangioma with Calcification, Radiol. **3**: 231 (Sept.) 1924.
8. Dunn, Louis: X-Ray as a Diagnostic Aid in Cases of Hemangiomata, Ann. Surg. **82**: 880 (Dec.) 1925.

In some cases a few of the calcified bodies have been palpable.

A clinical diagnosis of this condition is practically impossible without the aid of the roentgenogram; however, in obscure cases presenting the symptoms already outlined, it should be considered. The roentgenogram gives very definite but not conclusive evidence, as the calcified bodies closely resemble cysts of parasitic disease. Exploration with the finding of the hemangioma is final proof.

The treatment is surgical when possible, and as the majority of cases are confined to the extremities, excision of the tumor is the logical procedure. Hemorrhage as a rule is considerable, and a tourniquet, I feel, is advisable. However, it should be removed before the wound is closed so that one can determine the extent of the oozing.

The prognosis is favorable when the entire tumor mass can be removed. The symptoms depend on the pressure of the hemangioma on adjacent structures rather than that of the calcified bodies, so a roentgenogram after operation showing the presence of a few remaining bodies should not give any concern.

REPORT OF CASE

A woman, aged 18, married, reported to the University of Nebraska outpatient department, Dec. 9, 1924, on account of a painful swelling of the left forearm. She was assigned to the orthopedic clinic, where the following history was obtained: In 1914, ten years before, she had injured the forearm by a fall. The exact mechanism of the injury was not obtainable. There was partial disability and persistent swelling of the midforearm from this time, with rather severe pain for several years. During the first year following the trauma, she consulted three physicians. One told her she had a greenstick fracture, another said it was a blood clot, and a third splinted the arm without expressing his opinion as to the diagnosis. A roentgenogram was not obtained. During the following nine years she had variable symptoms of catching pain and discomfort in the forearm aggravated by exertion. The swelling also varied, depending on activity. During the four months previous to examination, she had noted increased swelling of the forearm with marked pain on attempting rotation. Of interest here was the fact that she was about five months pregnant. Ewing states that these growths not infrequently are accelerated at the menstrual period and during gestation.

Examination of the left forearm revealed a fusiform swelling over the antero-external aspect of the middle third, the circumference in this region being 1 inch greater than that at the same level of the right forearm. The overlying skin was shiny and reddened. The alinement of radius and ulna was not altered, but thickening of the shafts of both bones could be noted. Rotations of the forearm were limited and painful. Tenderness was diffuse over the swelling.

A clinical diagnosis of new growth was made, a fibroma, with its origin in deep fascia, bone sarcoma and bone cyst being considered in the order of their importance. Hemangioma was not considered.

Anteroposterior and lateral roentgenograms were taken of both forearms. This disclosed the condition seen in the accompanying illustration. On the basis of this evidence we made a diagnosis of calcifying hemangioma but also considered the possibility of encysted parasites.

December 11, operation was performed under general anesthesia. A constrictor was used, and the approach was made through a 4 inch muscle splitting incision on the antero-external surface of the forearm. When the deep muscle fascia was incised, a beautiful venous hemangioma measuring about 2 by 4 cm. was found resting on the anterior surface of the radius and interosseous membrane. It was globular in shape, with several pouching prolongations and a small pedicle leading to the radial vein. Two calcified bodies were found entirely separated from the tumor growth. The pedicle was tied off and the tumor removed with little difficulty. Four calcareous bodies were found within the sac. The postoperative course was uneventful. The patient continued to have pain, however, until after parturition, since which time symptoms of pain have been noted only after excessive use of the forearm in rotation motions, as wringing clothes. At present, three years after operation, there is no evidence of a return of the growth and tenderness is absent, although a recent roentgenogram revealed several calcified bodies which were also present immediately after operation.

Medical Arts Building.

THE PREVENTION AND MODIFICATION OF MEASLES BY MEASLES ANTI-DIPLOCOCCUS GOAT SERUM

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The use of the serum of immunized goats as a means of preventing measles is comparatively new. Hoyne and Gasul [1] recently reported a series of cases in which goat serum was used for this purpose, and they showed that 88 per cent of their patients were protected against measles, the remaining 12 per cent developing mild attacks of the disease.

Other methods of immunization against measles have been used. Nicolle and Conseil [2] and Richardson and Connor [3] used convalescent human measles serum as early as 1918. Rietschel [4] used convalescent human measles serum as early as 1918. Herrman [5] attempted to obtain active immunization by swabbing the mucous membranes of the nostrils of contacts with diluted secretions from patients with measles. All these methods, however, have definite disadvantages. Convalescent human serum is not usually obtainable in sufficient quantity when most desired, as in epidemics. Haas and Blum [6] and Park and Freeman [7] have recently expressed the same opinion. The use of serum from adults with a past history of measles has not proved an efficient or a satisfactory method of immunization, and moreover, the dose necessary is six times as great as that required by the use of goat serum. Herrman's method is obviously objectionable both to the laity and to the physician.

Tunnicliff,[8] in 1917, reported having obtained a culture of a micrococcus from the blood in preeruptive and eruptive stages of measles. In successive papers, she [9] again reported on experiments with a gram-

1. Hoyne, A. L., and Gasul, B. M.: Measles Prophylaxis, J. A. M. A. **87**: 1185-1188 (Oct. 9) 1926.
2. Nicolle, C., and Conseil, E.: Pouvoir préventif du serum dun malade convalescent de rougeole, Bull. et mem. Soc. méd. d. hôp. de Paris, April 12, 1918.
3. Richardson, D. L., and Connor, Hilary: Immunization Against Measles, J. A. M. A. **72**: 1046 (April 12) 1919.
4. Rietschel, H.: Zur Frage der prophylaktischen Injektion von normal Serum als Maserschutz, Deutsche med. Wchnschr. **49**: 1386 (Nov. 2) 1923.
5. Herrman, C.: Immunization Against Measles, Arch. Pediat. **32**: 503-507 (July) 1915.
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7. Park, W. H., and Freeman, R. G.: The Prophylactic Use of Convalescent Serum, J. A. M. A. **87**: 556 (Aug. 21) 1926.
8. Tunnicliff, Ruth: The Culture of a Micrococcus from Blood in Preeruptive and Eruptive Stages of Measles, J. A. M. A. **68**: 1028 (April 7) 1917.
9. Tunnicliff, Ruth: Further Studies on a Diplococcus in Measles, J. Infect. Dis. **37**: 193-198 (Sept.) 1925; Observations on the Bacteriology and Immune Reactions of Rubeola and Rubelea, ibid. **22**: 462 (May) 1918; Observations on Throat Smears in Measles, German Measles and Scarlet Fever, J. A. M. A. **71**: 104 (July 13) 1918; Agglutination in Measles, J. Infect. Dis. **24**: 76 (Feb.) 1919; On the Bacteria in Sputum in Measles, ibid. **24**: 181 (Feb.) 1919; Further Studies on a Diplococcus in Measles, ibid. **37**: 193 (Sept.) 1925. Tunnicliff, Ruth; and Hoyne, A. L.: Further Studies on a Diplococcus in Measles: Prevention of Measles by Immune Goat Serum, ibid. **38**: 48 (Jan.) 1926.

positive micrococcus or diplococcus which she and her associates believe to be the etiologic factor in measles. Ferry and Fisher [10] and Duval and Hibbard [11] have also reported either a diplococcus, an ovid coccus or a streptococcus in pairs as the etiologic factor in measles. It is most probable that these organisms are the same as the one found by Tunnicliff. With this organism as a basis, Tunnicliff and Hoyne [9] have immunized goats and produced a serum that is both antibacterial and antitoxic. The goat was chosen in preference to the horse that the possibility of sensitization would be slight.

The work to be described using goat serum for the purpose of protecting contacts against measles was carried out in the pediatric ward of the Cook County Hospital during the recent epidemic of measles. Approximately seventy infants and children, ranging in ages from a few weeks to 12 years, are cared for in this ward, which is divided into one large room accommodating fifty patients, and five small rooms, each one accommodating from four to five patients. As is usually the case in epidemics of measles, many patients who were admitted to the ward with a diagnosis of upper respiratory infection, rhinitis or acute bronchitis later presented the characteristic picture of measles. Thus I was afforded an opportunity to attempt passive immunization, by means of measles antidiplococcus goat serum, of all contacts who gave a definite history of not having had measles.

Fifty such contacts were exposed to active cases of measles. Seventeen of these, whose condition on admission definitely excluded a prodromal stage of measles, were immunized with goat serum before admission to the ward, where an active case of measles was present or had very recently been present. Their "days of exposure" have been charted as "naught" (table 1). The other thirty-three patients of the original fifty received goat serum on days of exposure, varying from one to six days (table 1).

Five cubic centimeters of goat serum was given intramuscularly. If the exposure was more than four days, the dose was doubled.[12]

TABLE 1.—*Results of Administration of Goat Serum*

Days of Exposure	Number of Cases	Number Developing Measles	Percentage Developing Measles	Percentage Protected	Number of Serum Deaths Due to		
					Reactions	Measles	Other Causes
0	17	3	21+	78+	0	0	3
1	10	5	50	50	0	0	0
2	4	1	33+	66+	0	0	1
3	10	3	20	80	0	0	0
5	3	2	66+	33+	0	0	0
6	6	3	60	40	0	0	1
Total	50	17	37	63	0	0	5

RESULTS OF IMMUNIZATION

Before Exposure.—Of the seventeen patients in this group whose days of exposure are charted as "naught," as explained previously, eleven did not develop measles; three developed a mild form of the disease, and three died five, six and ten days, respectively, after they were brought into the ward, death being due to such conditions as pneumonia or malnutrition for which they were originally admitted. Seventy-eight per cent were thus immunized against measles. There were no serum reactions.

First Day After Exposure.—Of ten patients in this group, five were protected and five developed measles, three of the latter having a mild form of the disease (table 2).

Second Day After Exposure.—Of four patients in this group, two were protected, one developed a mild form of the disease and one died four days later from a disease for which he was originally admitted to the hospital. There were no serum reactions.

TABLE 2.—*Clinical Course of Serum Recipients Who Developed Measles but Showed an Attenuation of the Disease*

Total Number of Cases	Signs	Number of Cases
17	Catarrhal signs and symptoms	
	Cough only	7
	Conjunctivitis only	3
	Mild conjunctivitis and rhinitis	5
	None	2
17	Fever	
	Afebrile, third day	6
	Afebrile, fourth day	8
	Afebrile, fifth day	3
17	Koplik spots	
	Numerous	13
	Absent	4
17	Eruption	
	Typical, but discrete	10
	Typical and profuse	7
17	Complications	0

Third Day After Exposure.—Of ten patients in this group, seven were protected. Of the remaining three patients who were not protected, one developed measles on the fifty-first day after exposure. In all probability this patient was reexposed. Protection was thus afforded to 80 per cent of the contacts in this group.

Fifth Day After Exposure.—Of three patients in this group, one was protected, and two developed a mild form of measles (table 2).

Sixth Day After Exposure.—Of six patients in this group, two were protected, three developed measles and one died ten days after exposure from the original illness, without showing any signs of measles or of a serum reaction.

SUMMARY

Fifty patients who gave a definite history of never having had measles were given measles antidiplococcus goat serum as a protection against measles. Five patients in this series died from three to ten days after receiving serum. Their deaths, however, were due to the illnesses for which they were originally admitted to the hospital; they did not develop measles nor did any serum sickness occur before death. Of the remaining forty-five patients in this series, twenty-eight patients, or 63 per cent, were successfully protected. While seventeen developed the disease, the majority of the latter experienced it in an attenuated form (table 2). In spite of the fact that eight patients received serum after the fourth day of exposure, three of these, or 38 per cent, were protected. It is especially noteworthy that not a single complication occurred in any of the patients treated with serum who developed measles, nor was there any instance of a serum reaction in the entire series.

CONCLUSIONS

1. Measles antidiplococcus goat serum apparently effected immunization against measles in a large percentage of cases.

10. Ferry, N. S., and Fisher, L. W.: Measles Toxin: Its Preparation and Application as a Skin Test, as an Immunizing Agent and for Production of Antitoxin, J. A. M. A. **86**: 932 (March 2) 1926.

11. Duval, C. W., and Hibbard, R. J.: Further Studies on the Etiology of Measles, Proc. Soc. Exper. Biol. & Med. **24**: 519-522 (March) 1927.

12. The goat serum used was supplied by Dr. Ruth Tunnicliff of the Durand Hospital of the John McCormack Institute for Infectious Diseases.

2. The serum seems to have attenuated the disease in those patients who developed measles, and a permanent immunity was produced with the least possible risk.

3. Measles antidiplococcus goat serum is both antibacterial and antitoxic. Its production in quantities to meet all necessary demands can be accomplished.

SIMULTANEOUS CHOLECYSTOGRAPHY AND DETERMINATION OF HEPATIC FUNCTION *

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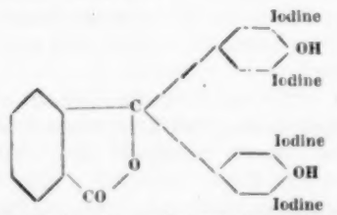
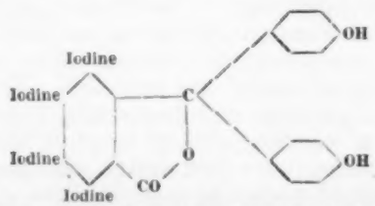
AND
EVARTS A. GRAHAM, M.D.
ST. LOUIS

In previous publications we [1] have mentioned the superiority of phenoltetraiodophthalein over its isomeric compound tetraiodophenolphthalein for purposes of cholecystography. Its advantages lie in the facts that a smaller dose is required and that correspondingly a diminished incidence of toxic reactions occurs, and that simultaneously with the cholecystographic study of the gallbladder it is possible to measure the excretory function of the liver. The structural formulas of the two compounds are as follows:



Structural formula of tetraiodophenolphthalein.



Structural formula of phenoltetraiodophthalein.

The determination of the excretory function of the liver by the use of various phenolphthalein dyes, a method which was originated by Abel and Rowntree [2] and later modified by Rosenthal,[3] has been utilized extensively in clinical medicine although, on the whole, with disappointing results so far as help in the diagnosis of different common disorders of the liver and biliary tract is concerned. Green, McVicar, Walters and Rowntree,[4] in their critical study of the value of functional dye tests, do, however, consider that the use of phenoltetrachlorphthalein may be of great aid in the recognition of carcinoma of the liver and in the study of the functional changes in patients with obstructive jaundice. In using any of the phenolphthalein derivatives for study of the excretory function of the liver, it is necessary to employ those in which the halogen atoms are arranged according to the second of the formulas given, since it is only this group that stains the serum sufficiently to afford recognition of small quantities of the dye. For purposes of studying the function of hepatic excretion, it apparently makes little difference which halogen, whether chlorine, bromine or iodine, is in the molecule. But for purposes of cholecystography it is essential that the halogen be either bromine or iodine, and preferably the latter, since the chlorine derivatives are not sufficiently opaque to the roentgen rays to make the gallbladder visible.

It has seemed to us that perhaps one of the reasons the determination of the excretory function of the liver with dyes has in the past been somewhat unsatisfactory as a diagnostic procedure has been that the doses ordinarily employed have been too small. It goes without saying that in any kind of a test of function, whether of a machine or of an organ, enough work must be put on the object to be tested to determine what its capabilities are. Injections of minute quantities of a dye can therefore hardly be expected to give the liver a sufficient amount of work to perform really to test its capabilities of excretion. With these considerations before us, it appeared reasonable to expect that perhaps with much larger doses much more information could be obtained than would be the case otherwise. It happens that the dose of phenoltetraiodophthalein which we found most suitable for cholecystography (0.04 Gm. per kilogram) was at least eight times that recommended for most of the dyes used for functional hepatic tests (0.005 Gm. of phenoltetrachlorphthalein were suggested by Rosenthal). Our results have borne out to a great extent our theoretical considerations. We believe that they show that the use of a functional excretory test with a sufficiently large dose of dye will prove of very distinct value not only in the differentiation between malignant and inflammatory obstructive jaundice but also in gaging the operative risk in a patient with diseases of the biliary tract. It happens, therefore, that the possibility of using the same substance for the simultaneous purposes of cholecystography and determination of hepatic excretory function is very fortunate.

RESULTS

The largest amounts of retention of the dye have been observed in patients having (1) jaundice due to obstruction of the common duct with stone; (2) catarrhal jaundice; (3) advanced cases of atrophic cirrhosis, and (4) duodenal ulcer accompanied by an inflammatory process in the gallbladder. The average figures for the retention of dye in the blood serum in these diseases are, respectively, 55, 90, 47 and 58 per cent, one-half hour after the administration of the dye, as shown in the accompanying table. All patients suffering from cholecystitis and having jaundice revealed a retention of dye far above normal. About 90 per cent of all patients having cholecystitis without jaundice, who were examined in our series, revealed a retention above normal. The average was 27 per cent one-half hour after injection. These observations have interested us greatly because they tend to confirm from a different point of view ideas which were developed in this depart-

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* From the Department of Surgery, Washington University Medical School, and the Barnes Hospital.

1. Graham, E. A.; Cole, W. H.; Copher, G. H., and Moore, Sherwood: Simultaneous Cholecystography and Tests of Hepatic and Renal Functions by a Single New Substance, Sodium Phenoltetraiodophthalein, J. A. M. A. **86**: 467 (Feb. 13) 1926; Cholecystography: The Use of Phenoltetraiodophthalein, ibid. **86**: 1899 (June 19) 1926.

2. Abel, J. J., and Rowntree, L. G.: On the Pharmacological Action of some Phthaleins and Their Derivatives, with Especial Reference to Their Behavior as Purgatives: I. J. Pharmacol. & Exper. Therap. **1**: 231, 1909-1910.

3. Rosenthal, S. M.: An Improved Method for Using Phenoltetrachlorphthalein as a Liver Function Test, J. Pharmacol. & Exper. Therap. **19**: 385 (June) 1922.

4. Greene, C. H.; McVicar, C. S.; Walters, Waltman; and Rowntree, L. G.: Diseases of the Liver: IV. Functional Tests in Cases of Carcinoma of the Liver and Biliary Tract, Arch. Int. Med. **36**: 542 (Oct.) 1925.

ment in several papers [5] a few years ago; namely, that in cases of cholecystitis there is a more or less constant hepatitis. Walton Martin [6] has recently raised questions doubting the significance of our previous observations and conclusions.

We were surprised to find that patients suffering from carcinoma of the liver, whether primary or metastatic, revealed a relatively low retention, the average figure being 28 per cent one-half hour after the injection. Many of them, even in the presence of deep jaundice, had almost normal figures of retention. The difference in the amount of retention in jaundice due to carcinoma and in jaundice caused by obstruction of the common duct with stone is so marked that it is frequently of great value in differential diagnosis. The ability to differentiate between jaundice caused by carcinoma of the liver and jaundice caused by stone in the common duct is even more accurate if there is opportunity to observe the patient over a period of several days. If the jaundice caused by obstruction of the common duct by stone is present over several days in equal or increasing degree, the amount of retention of dye will show a significant increase during the interval. On the other hand, if the jaundice is produced by carcinoma of the liver or by carcinoma of the pancreas, the amount of variation will not show any appreciable change. This difference in retention in patients having jaundice due to carcinoma and jaundice of obstructive origin with a stone in the common duct probably is adequately explained by the absence of necrosis of the liver in patients with carcinoma, excepting the extremely advanced type, and the presence of infection within the liver and its consequent effects on the hepatic cells when the jaundice is produced by stone in the common duct. It is also significant that patients with enlarged liver due to cardiac decompensation presented practically normal retention. The average retention after one-half hour, in the few patients with diabetes who were examined by this test, was 26 per cent.

Average Retention of Dye in Blood Serum *

No. of Cases	Diagnosis	Retention of Dye, per Cent	
		30 Min.	60 Min.
22	Cholecystitis (no jaundice)	27	11
10	Cholecystitis (jaundice)	55	
4	Atrophic cirrhosis	47	
1	Syphilitic cirrhosis	50	
1	Alcoholic cirrhosis	25	10
8	Carcinoma of liver	28	12
3	Carcinoma of pancreas	24	16
4†	Hepatitis, normal gallbladder (appendicitis or salpingitis origin)	28	
1	Alcoholic hepatitis (acute)	70	12
1	Lymphatic leukemia	12	7
1	Catarrhal jaundice	90	70
4	Duodenal ulcer	58	
1	Abscess of liver	31	16
1	Banti's disease	40	27
1	Anxiety neurosis ?	35	12
2	Diabetes	26	
1	Arteriosclerosis (age 66)	25	
3	Cardiac decompensation ascites	15	8
1	Constipation	17	
1	Pyelitis	12	
50	Normal	12	5

* The figures given represent the averages for the different conditions.
† These were cases in which the liver was affected probably as the result of appendicitis or salpingitis, in which the gallbladder appeared normal in the cholecystograms.

Perhaps the greatest value obtained from the readings on hepatic function in our series is in the determination of operability. Of the patients operated on in this series, in whom hepatic function had previously been determined, two died following cholecystectomy and one died following gastro-enterostomy for ulcer. Only one was jaundiced—a patient with obstruction of the common duct by stone for which a cholecystectomy and choledochostomy was performed. The amount of retention in each of these three patients was 70, 90 and 75 per cent, respectively. These figures represent a retention as high as or higher than that found in any of the other patients on whom operation was performed in this series. We feel, therefore, that any patient showing a high retention of dye following the injection of phenoltetraiodophthalein is a poor operative risk and the minimum amount of operative work should be done. The patient's condition should be reinforced by such measures as intravenous injections of dextrose and transfusions.

Evidence is encountered which leads us to believe that a very marked degree of hepatic injury is necessary before the delayed excretion of the dye by the liver will affect the production of the shadow of the gallbladder. Normal cholecystograms have been observed when the retention of dye was as high as 60 or 70 per cent one-half hour after injection of the dye. It is true, however, that in the majority of patients with retention as great as this pathologic cholecystograms were obtained, but this is to be expected since operation has revealed either cholecystitis or edema of the gallbladder of severe grade.

As stated previously, another advantage of phenoltetraiodophthalein over tetraiodophenolphthalein lies in the fact that fewer reactions are obtained because of the smaller dose required. In the last 200 patients on whom the test was performed, 68 per cent had absolutely no reaction of any kind following the injection. Twenty-five per cent had first degree reaction consisting of only one of a series of symptoms such as headache, nausea, vertigo, "aching sensation" and weakness. The remaining patients, 6.5 per cent, sustained second degree reactions, consisting of vomiting, chill or fever, or more than one symptom named in the first degree reactions. The only disadvantage of phenoltetraiodophthalein at the present time is its price. It has no advantage over tetraiodophenolphthalein in oral use, however.

TECHNIC

The dye is dissolved in freshly distilled water, in sufficient amount to produce a solution whose concentration does not exceed 8 per cent. The solution is filtered and sterilized in a water bath for fifteen or twenty minutes. It is given in the morning, all in one dose, and a specimen of blood is taken one-half hour after it has been administered. Another sample may be taken one hour after the dye has been given if desired. Routine cholecystographic examinations are made at four, eight and twenty-four hours. Normally, about 12 per cent remains in the blood at the end of one-half hour, and 5 per cent at the end of one hour. The patient's serum is compared to standards in a manner similar to that advised by Rosenthal when using phenoltetrachlorphthalein. The only significant change which we recommend is that sufficient blood (from 12 to 14 cc.) be collected as the half-hour sample to furnish enough serum to use as control, instead of using serum obtained from blood collected before

5. Graham, E. A.: Hepatitis: A Constant Accompaniment of Cholecystitis, Surg. Gynec. Obst. **26**: 521 (May) 1918. Graham, E. A., and Peterman, M. G.: Further Observations on the Lymphatic Origin of Cholecystitis, Choledochitis and the Associated Pancreatitis, Arch. Surg. **4**: 23 (Jan.) 1922.
6. Martin, Walton: Hepatitis and its Relation to Cholecystitis, Ann. Surg. **85**: 535 (April) 1927.

injection of the dye. This eliminates the possibility of error arising from any difference in color which may arise in the control serum and serum to be analyzed, from causes such as hemolysis. When this technic is used, the arrangement of tubes in the comparator box is as follows: In one hole of the box is placed one half of the serum obtained from the half-hour sample of blood. (We do not find the addition of dilute acid to this tube very helpful.) Beside it is placed a tube containing distilled water. In front of the tube of water is placed the other half of the serum obtained from the half-hour blood sample, and a drop of 10 per cent sodium hydroxide is added to bring out the color. This is mixed well by shaking. On account of the variation in the amount of serum which may be obtained for determinations, a reading should be made after the addition of a small drop of 10 per cent sodium hydroxide, and a little more alkali added to see whether the deepest color has been produced. If too much alkali is added, the purple-red color will turn brownish and may mislead one into a reading which is higher than the correct reading. In front of the tube of serum to which alkali has not been added are placed tubes of standard until one is found that matches the color reflected through the tube of alkalized serum and the tube of water.

Briefly, the standards are made by adding 48 mg. of phenoltetraiodophthalein to 100 cc. of distilled water. This represents a 100 per cent standard. Various dilutions of this are made, down to as low as 5 per cent. To all the water used in the dilutions and preparation of solutions, 2 cc. of 10 per cent sodium hydroxide must be added to prevent fading. When not in use, the standards must be kept in a dark place to prevent fading.

SUMMARY

Simultaneous cholecystography and the determination of the excretory function of the liver, as is done according to the methods of Rosenthal and others, is possible with the use of sodium phenoltetraiodophthalein.

The use of larger amounts of this dye (to accomplish the visualization of the gallbladder simultaneously) than those ordinarily employed in hepatic functional tests has convinced us that the determination of the excretory function of the liver by this means gives very valuable information in the differentiation between obstructive jaundice due to malignant disease and that due to stones and inflammations. A knowledge of the amount of retention of the dye has also proved of great prognostic value in enabling one to gage the operative risk.

Euclid Avenue and Kingshighway.

Value of a Classical Education.—I am convinced that the medical student who knows the great classics of the past is better equipped to practice medicine than he who has Quain, Osler and Howell at his finger tips. Any one who knows anything thoroughly, be it history or literature, music or sculpture, may achieve a reputation for culture. Culture has a reputation for creating an élite by giving to some advantages that others have not: any one can attain it so there is no favoritism. It is said to engender idleness by unfitting man for ordinary labor: John Cotton Dana is the living example that it does not. It has been objected that by its dealing with the past, it hampers progress: thrilling prowess and civic virtues are never out of date and ancient literature is filled with such examples. And the creation of an élite should be desired and striven for.—Collins, J.: *New England J. M. J.* **198**:189 (March 15) 1928.

SPIROCHETAL JAUNDICE

A CASE IN VIRGINIA*

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AND
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UNIVERSITY, VA.

Since the description by Weil [1] in 1886 of a disease characterized by fever, prostration, headache, dizziness, anorexia, muscle pains and jaundice, and the demonstration in 1914 by Inado and Ido [2] of a spirochete as the causative agent, numerous cases have been reported in the European medical literature.

During the past two years seven proved cases have been reported in this country,[3] the last one by Towler and Walker. We add another, the eighth case of this disease.

REPORT OF CASE

History.—W. G., a youth, aged 20, admitted to the University of Virginia Hospital, Feb. 21, 1927, had been attending the university and had represented the university as a member of the swimming team. He had been at school constantly since January 2, except for one day, a week before admission, when he competed in an indoor swimming meet in a nearby town.

One day before admission the patient had done some fancy diving in the indoor pool at the university and had felt perfectly well until that night, when he experienced headache, backache and pains in the legs. He noted a tender gland in the right inguinal region. He was seen by one of us the next day, and a routine physical examination did not reveal any abnormality other than the gland mentioned. He was admitted to the hospital with the additional complaints of nausea, loss of appetite, drowsiness and pain on moving the eyeballs. The temperature was 101 F., the respiration, 28.

Physical Examination.—The patient was rather toxic and lay in bed with the eyes closed, the pupils pin point. On dilatation the left disk was suggestive of beginning edema. The sclerae were clear and the sinuses normal. There was slight injection of the pharynx. The heart was normal, with a rate of 100. The lungs were normal, as was also the abdomen. There was a small tender gland in the right inguinal region. The reflexes were normal. The leukocytes numbered 14,200. The blood pressure was 106 systolic and 64 diastolic. The urine was light yellow and normal except for a very slight trace of albumin and an occasional pus cell.

Course.—The patient's temperature ranged between 101 and 104 until the fourth day after admission, when he developed jaundice. He then complained of difficulty in swallowing and was actively nauseated.

The liver could now be palpated three finger breadths below the costal margin in the midline and was distinctly tender. Leukocytes at this time numbered 6,600. The hemoglobin was 82 per cent. The red blood cells numbered 4,384,000. A smear was normal.

Blood cultures and the Widal reaction were negative.

The urine contained bilirubin, many coarsely and finely granular casts, four or five pus cells, an occasional clump of pus, and no red blood cells. Casts and pus were bile stained. There was also a large trace of albumin. The van den Bergh immediate direct reaction was positive; the indirect, strongly positive.

* From the Department of Internal Medicine and the Clinical Laboratory, University of Virginia Hospital.

1. Weil, H. A.: Peculiar Acute Infection with Splenic Enlargement, Jaundice and Nephritis, Deutsches. Arch. f. klin. Med. **39**: 209, 1886.

2. Inado, R.; Ido, Y.; Hoki, R.; Kaneko, R., and Ito, H.: The Etiology, Mode of Infection, and Specific Therapy of Weil's Disease (Spirochaetosis Icterohemorrhagica), J. Exper. Med. **23**: 377 (March) 1926.

3. Towler, H. H., and Walker, J. E.: Spirochetal Jaundice: Report of a Case, J. A. M. A. **89**: 86 (July 9) 1927. Wadsworth, Augustus; Langworthy, H. Virginia; Stewart, F. Constance; Moore, Anna C., and Coleman, Marion B.: Infectious Jaundice Occurring in New York State, ibid. **78**: 1120 (April 15) 1922. McDowell, E. S.: A Case of Infectious Jaundice, New York State J. Med. **25**: 19 (Jan.) 1925. Sailor, Joseph: Leptospirosis Icterohemorrhagica (Weil's Disease), Am. J. M. Sc. **170**: 332 (Sept.) 1925. Hayman, J. M., and Lynch, F. B.: Spirochaetal Jaundice in the United States, ibid. **173**: 80 (Jan.) 1927. Bates, J. E.: Leptospirosis Icterohemorrhagica (Weil's Disease): Fatal Case, Canad. M. A. J. **16**: 1421 (Dec.) 1926.

The stool was light, formed, and medium brown. The benzidine test was positive for blood. The unchanged bile was negative; the changed bile, positive.

The possibility of Weil's disease was strongly suspected, but dark field examinations of the urine and blood were negative. However, a young white guinea-pig was inoculated on the fifth day of the disease with 0.5 cc. of citrated blood intraperitoneally.

The patient's symptoms gradually subsided, the temperature returning to normal on the eighth day after admission and remaining there until his discharge on the twelfth day after admission. He was still jaundiced, but felt fairly well except for weakness.

Laboratory Report on Guinea-Pig.—On the eighth day after inoculation, the animal was deeply jaundiced and appeared very sick. The sclerae were yellow, the skin was deeply tinged with bile, and the voided urine gave a positive bile test and showed a very slight trace of albumin. The animal died on the eighth day after inoculation and an autopsy was performed.

All the tissues were distinctly bile stained. The inguinal and axillary glands were enlarged and showed ecchymoses. The skin showed petechiae. All the viscera were markedly bile stained. The gallbladder was thin and did not show hemorrhages. The spleen was large and soft. The kidneys were large and somewhat pale, and one showed a small hemorrhage. The suprarenals were very yellow and no hemorrhage was found. The lungs showed many hemorrhagic areas but otherwise were pale and yellow. The liver was pale and yellow, apparently enlarged, and fatty.

When examined microscopically, the kidney showed areas of cloudy swelling. There were many hyaline casts, an occasional one being distinctly bile stained. Small collections of round cells with a few polymorphonuclears were found around some of the blood vessels.

The liver showed a distinct cloudy swelling with a moderate amount of fat. A slight infiltration with round cells and a few polymorphonuclears was found in the portal canals and around some of the sublobular veins. The sections examined did not show any hemorrhage.

The spleen showed cloudy swelling. Malpighian bodies were very prominent.

The lungs showed large areas of hemorrhage; otherwise nothing abnormal was found.

Leptospira icterohemorrhagiae was found in emulsions of the kidney; none of the organisms were found in the blood, the liver or the spleen. They were seen with the dark field and in a preparation stained with Giemsa's stain.

No cultures and no further inoculations were attempted.

Subsequent Course.—The patient suffered a relapse while at home, where the course has been reported by Blanton.[4] The serum at this time gave a positive Pfeiffer reaction with *Leptospira icterohemorrhagiae.*

COMMENT

This case, with the increasing number being reported in the United States, leads us to believe that the disease is more common than has heretofore been suspected. Jaundice with high fever, prostration, muscular pains, nosebleed or hemorrhage with lymphocytosis and many large lymphocytes should make one suspect Weil's disease. The diagnosis can be made in the early stages by inoculating a guinea-pig with the patient's blood.

We agree with numerous other writers that mild jaundice, as seen in epidemics, particularly prevalent in institutions, is probably not of this type, for injections of blood into the guinea-pig from a number of such cases have given entirely negative results.

It is interesting to speculate as to the mode of infection, but no definite factor can be traced in this instance. No other cases of jaundice were observed in the student body at the time of this patient's illness, nor had jaundice been prevalent immediately before that time.

4. Blanton, W. B.: Infectious Jaundice, Virginia M. Monthly **54**: 210 (July) 1927.

SUMMARY

In the eighth proved case of *Leptospira icterohemorrhagiae* reported in the United States, the symptoms, including the usual relapse, were characteristic of this disease.

The mode of infection could not be determined.

It is believed that the disease is probably more widespread than indicated by the few case reports. However, the case conforms with the others reported in that it was an isolated instance of the infection.

Clinical Notes, Suggestions and New Instruments

A CASE OF INTRASPINAL EXTRADURAL ABSCESS

NEIL S. MACDONALD, M.D., MINNEAPOLIS

As reports on the subject of extradural abscess of the spine as a primary lesion have been found to be rather meager, in accordance with the literature extant and particularly in the experience of the Mayo Clinic, the report of the following case seems justified:

In March, 1916, I saw in consultation a boy, aged 2 years, who, three weeks previously, had had an acute respiratory infection causing an otitis media which ruptured spontaneously and was discharging at the time of the examination. A diagnosis of anterior poliomyelitis had previously been made, which was a natural conclusion in the presence of an epidemic in the town and adjacent country.

The patient presented a picture of profound septicemia, manifested by the usual accompaniments, such as loss of weight, fluctuating temperature, rapid pulse, sleeplessness and marked discomfort. In fact, rest was not obtained except through liberal doses of camphorated tincture of opium prescribed by the attending physician.

It was extremely difficult to make other than a superficial examination although the following physical signs were obvious: rigidity of the back, thigh and leg muscles, with flexion of the lower limbs and an apparent beginning bilateral foot drop, which was in reality a spastic paraplegia. The patellar reflexes were exaggerated. There was also a deeply palpable inflammatory induration in the dorsolumbar region.

A tentative diagnosis of intraspinal pressure, the result of an infectious process, was made and a laminectomy recommended which was performed the following day. The operation disclosed a circumscribed extradural abscess in the dorsolumbar region, a portion of which had escaped through the interlaminar spaces into the adjacent soft parts on the left side underneath the lumbar muscles. Liberal tube drainage was provided, and immediate improvement in the general physical condition was obtained. The wound drained freely for a period of approximately two months, and eventually closed.

The laboratory reported that the infection was due to a staphylococcus of undetermined type. A smear from the ear was not made, and therefore it was not determined whether or not the ear infection had any bearing on the condition described.

The postoperative diagnosis was localized spinal abscess, extradural, the result of meningeal or osteomyelitic infection, probably secondary to an acute infectious process in the middle ear.

A physical examination in July, 1917, showed that the patient was well nourished, without difficulty in gait, station or locomotion; the patellar reflexes were normal; the wound was closed, and there was no tenderness over the dorsolumbar area on moderate pressure.

A follow-up report was received from the mother in 1927 to the effect that the boy was well and strong, was big for his age, and, as far as she was able to determine, was in no way handicapped by his experience.

Finally, it may be stated that a perusal of the literature would indicate that little has been written thus far on the

subject in question. Therefore a statistical study should be in order, this being the second case of its kind that has come to my attention. The first, which came to operation, was observed in 1913 in the practice of Dr. Max Ballin of Detroit, to whom I am indebted for a painstaking history, a clinical demonstration, and the operative technic.

306 Oak Grove Street.

DIPHTHERIA INFECTION OF THE SCROTAL CONTENTS

CLARENCE MARTIN, M.D., ST. LOUIS

The case here described was thought of sufficient importance to report because of the unusual bacteriology involved.

W. L. B., a white man, aged 77, a widower, American, a houseman, entered the St. Louis City Hospital, Nov. 19, 1926, complaining that a mass, which had been present in the scrotum for many years, had flared up one week previous to admission to the hospital and was causing him considerable distress.

The following history was elicited: Twenty-six years before the patient had noticed a painless swelling in the left side of the scrotal sac. He was at a loss to account for it. There had not been any recently aquired trauma but at the age of 14, thirty-seven years prior to the date which marked the beginning of the scrotal swelling, the patient fell astride a cross-bar, injuring the inguinal region and left testis. Apparently a quick and complete recovery followed this injury.

The patient had had pneumonia, malaria and some of the diseases of childhood but could not remember that he had ever had diphtheria. Twelve years before the right leg had been amputated at the junction of the lower with the middle third of the thigh. The patient did not know the reason for the amputation, but according to his statement he probably had an acute infectious process followed by a chronic osteomyelitis. Large, soft masses were found parallel to Poupart's ligament. They felt like fatty masses. The patient said that they had been present for many years. Several hard lymph glands could be palpated in the left inguinal region. The patient stated that he had never had syphilis. The Wassermann reaction was negative.

At the time of admission, the patient's temperature was 98.8 F.; the pulse, 78, and the respiration, 20.

Within a few months after being noticed, the scrotal mass grew to the size of the average adult fist. Hard, painless and stationary in size, the mass gave the patient no inconvenience, except that due to its size, during the entire twenty-six years until one week before his admission into the hospital, when the chronicity of the condition changed to acuteness. The patient said that this change to acuteness was marked by a chill and a feeling of malaise, and shortly thereafter the mass rapidly increased in size. There was now a pronounced tenderness on the ventral surface of the scrotum.

At my first examination, several days after his admission to my service, the condition appeared to be an inflammatory swelling of the testis and epididymis. There was definite indication of beginning suppuration. November 27, I saw the patient again. At this examination there was marked fluctuation in the mass, and a red, angry looking zone in the skin of the anterior surface of the scrotum extending to the under side of the penis was present. The intern was instructed to evacuate the pus.

The intern's note on this date reads as follows: A needle inserted into the lower pole of the testicular mass encountered a very definitely resisting wall. Penetration of this wall brought forth a yellowish, moderately thin pus with a mild odor. One hundred and forty cubic centimeters of pus was withdrawn, producing a noticeable diminution in the size of the mass. From a specimen of pus sent to the laboratory, a pure culture of diphtheria bacillus was obtained.

On account of the unusual site for a diphtheria infection the case was brought to the attention of the hospital's pathologist, Dr. Charles W. Schery, who took personal charge of the subsequent investigations.

November 30, 50 cc. of a purulent fluid was aspirated from the scrotal mass. The needle wound was enlarged with a knife, and a rubber drain was inserted. A specimen of pus was sent to the laboratory.

December 2, 50 cc. of a sanguinopurulent material was evacuated. The incision was further enlarged, the adhesions were broken and numerous small pockets were opened. The finger encountered a hard, nodular mass firmly adherent to the overlying tissues. The scrotal mass was now reduced to one third the size before evacuation of pus.

Dr. Schery reported that all cultures and virulence tests showed the organism found to be the diphtheria bacillus.

Cultures of material from the throat and nose were negative for the diphtheria bacillus. Such cultures were repeatedly negative throughout the course of the disease.

December 2, 15,000 units of diphtheria antitoxin was given intramuscularly.

December 6, the condition had improved. The swelling continued to recede, but there was still slight drainage. A grayish membrane protruded from the sinus.

A guinea-pig inoculated by Dr. Schery with the culture died. Examination disclosed typical lesions of diphtheria toxemia. Another pig inoculated with the same dose, but protected with antitoxin, survived.

Jan. 18, 1927, a culture of secretion from the discharging sinus still showed the diphtheria bacillus.

An examination of urologic literature does not reveal a similar case. I am unable to account for the unusual site of the infection with the diphtheria organism. It seems to me that in all probability there have been two infections within the tunica vaginalis, diphtheria being superimposed on an older one. While there is the possibility of trauma of the scrotum caused by the crude and cumbersome cradle of the patient's wooden leg into which the stump fit, with a resulting direct infection, the theory of the infection reaching the scrotum from a distant source through the avenue of the blood stream seems more plausible.

The patient refused to consider removal of the infected testis.

Missouri Building.

EXTREME HYPERGLYCEMIA IN DIABETIC COMA WITH RECOVERY *

W. STANLEY CURTIS, M.D., AND IRA M. DIXSON, A.B., BOSTON

Recovery from diabetic coma with hyperglycemia as high as 1.62 per cent has not yet been reported in the literature, and our case therefore seems sufficiently important to justify the following note:

A girl, aged 18, entered the New England Deaconess Hospital under the care of Dr. E. P. Joslin, Aug. 28, 1924, for treatment of diabetes complicated by an abscess on the outer aspect of the left thigh. She had always enjoyed excellent health until September, 1923, when she developed diabetes and began the use of insulin in October of the same year. The fasting blood sugar during her stay varied from 0.34 to 0.20 per cent. She was discharged to the care of her local physician, Sept. 16, 1924, taking 10 units of insulin three times a day.

Her next admission to the Deaconess Hospital was at 5:30 a. m., Sept. 18, 1927, in profound coma, and her immediate care came under our supervision. Since her first discharge she had continued to do well until January, 1927, when she developed a bad cold with resulting increased glycosuria, and accordingly she increased the insulin dosage. She soon became unconscious and was in coma for four days, apparently as a result of overdoses of insulin with hypoglycemia. Recovering from this she suffered a nervous breakdown in March, 1927, and at different times attempted to engage in some form of work, only to abandon it after a few days' trial. In September, 1927, she came to Boston to enter a business school and in the confusion attendant on locating an apartment and formulating her plans for the year she neglected her diet and took insulin carelessly. After three days of this irregularity, nausea and vomiting ensued, and twenty-four hours later she was admitted to the hospital in coma.

* From the New England Deaconess Hospital.

On admission the patient exhibited all the symptoms and signs of extreme acidosis: soft eyeballs; Kussmaul respiration; acetone odor to the breath; a rectal temperature of 96.6 F.; urine containing three plus sugar and diacetic acid; a blood pressure of 95 systolic and 75 diastolic; a pulse rate of 140; a white blood count of 28,100; blood carbon dioxide, 13 per cent by volume; blood sugar, 1.62 per cent (checked twice), and nonprotein nitrogen, 140 mg. per hundred cubic centimeters. During the first eight hours she received 225 units of insulin subcutaneously: 20 units every thirty minutes for ten doses, then smaller doses hourly. Specimens of urine were obtained by catheter every two hours. We thought it inadvisable to attempt to lower the blood sugar at too rapid a rate because of a possible ill effect on the heart. The accompanying table shows the chemical changes that took place in the blood from time to time.

Comparatively little insulin was administered after 10:30 on the morning of admission, and yet as can be seen from the table the blood sugar continued to drop rapidly. The specimens of urine continued to show sugar, although in decreasing amounts. A summary of the treatment other than with insulin follows. This was begun immediately on entrance to the hospital:

(*a*) Use of hot water bottles (rectal temperature, 96.6 F.).

(*b*) Gastric lavage with warm water.

(*c*) Hypodermoclysis with 1,000 cc. of physiologic sodium chloride solution with 1 cc. of 1:1,000 epinephrine. This was repeated after five hours without the epinephrine.

Chemical Changes in Blood

Time	Blood Sugar, Per Cent	Nonprotein Nitrogen Mg. per 100 Cc.	Blood Carbon Dioxide Per Cent by Volume
6 a. m.	1.62	140	13
8 a. m.	1.38	103	18
11 a. m.	0.79	80	24
3 p. m.	0.36	80	37
6 p. m.	0.13	78	48

(*d*) Tap water, 6 ounces (178 cc.) by rectum every four hours.

(*e*) Caffeine sodiobenzoate, 7½ grains (0.5 Gm.), every three hours for three doses.

(*f*) Warm fluid by mouth, 150 cc. every hour as soon as her condition permitted.

Neither dextrose nor any carbohydrate drinks were given for the first eight hours. Then 100 Gm. of carbohydrate was ordered for the next twenty-four hours to be given as orange juice, ginger ale or any other drink that the patient would tolerate. Her condition rapidly improved, although it was twenty-four hours before complete consciousness was restored. She was discharged, Oct. 10, 1927, on a diet of 80 Gm. of carbohydrate, 55 Gm. of protein, and 110 Gm. of fat, a total of 1,530 calories, with insulin twice daily, 20 units before breakfast and 10 units before supper.

Pitfield[1] reports a case in which the blood sugar was 1.7 per cent (1,700 mg. per hundred cubic centimeters of blood). Ninety units of insulin was administered by vein during the first hour. In one hour the blood sugar had fallen to 0.84 per cent. Death occurred at the end of the next hour, 50 additional units of insulin having been given in the meantime. Argy[2] reports a case of hyperglycemia (1.71 per cent) with coma associated with an absence of acetone in the urine. After administering 500 cc. of physiologic sodium chloride solution with 50 units of insulin intravenously, the blood sugar dropped to 0.895 per cent at the end of one and a half hours. The patient was then given 20 units of insulin every three hours for four doses but he never regained consciousness.

Dr. I. M. Rabinowitch[3] of the Montreal General Hospital describes a case with hyperglycemia of 1.432 per cent, and a fatal termination.

81 Bay Street Road.

1. Pitfield, R. L.: M. J. & Record **120:** 433 (Nov. 5) 1924.
2. Argy, W. P.: Boston M. & S. J. **193:** 1236 (Dec. 31) 1925.
3. Rabinowitch, I. M.: Personal communication to Dr. E. P. Joslin.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

POLLEN EXTRACTS-HOLLISTER-STIER. — Liquids obtained by extracting the dried pollen of plants with a liquid consisting of 48 per cent of glycerin, 5 per cent of sodium chloride and 47 per cent distilled water.

Actions and Uses.—See Allergic Protein Preparations, New and Nonofficial Remedies, 1927, p. 23.

Dosage.—See Allergic Protein Preparations, New and Nonofficial Remedies, 1927, p. 23.

Pollen extracts-Hollister-Stier are marketed in treatment sets of five vials containing, respectively, 20, 100, 1,000, 5,000 and 10,000 units per cubic centimeter accompanied by three vials of physiological solution of sodium chloride for diluting the extract; in treatment sets of thirty vials, twenty containing 400, 500, 600, 700, 800, 900, 1,000, and ten each containing 1,000 units, accompanied by thirty vials of physiological solution of sodium chloride for diluting the extract.

Manufactured by the Hollister-Stier Laboratories, Spokane, Washington. No U. S. patent or trademark.

Alder Pollen Extract-Hollister-Stier; Aspen Pollen Extract-Hollister-Stier; Atriplex Pollen Extract-Hollister-Stier; Awnless Brome Grass Pollen Extract-Hollister-Stier; Blue Bunch Grass Pollen Extract-Hollister-Stier; Box Elder Pollen Extract-Hollister-Stier; Canada Blue Grass Pollen Extract-Hollister-Stier; Cheat Pollen Extract-Hollister-Stier; Common Sagebrush Pollen Extract-Hollister-Stier; Crested Koeleria Pollen Extract-Hollister-Stier; Dandelion Pollen Extract-Hollister-Stier; Eastern Ragweed Pollen Extract-Hollister-Stier; English Plantain Pollen Extract-Hollister-Stier; Giant Poverty Weed Pollen Extract-Hollister-Stier; Kentucky Blue Grass Pollen Extract-Hollister-Stier; Lamb's Quarters Pollen Extract-Hollister-Stier; Mugwort Pollen Extract-Hollister-Stier; Orchard Grass Pollen Extract-Hollister-Stier; Perennial Rye Grass Pollen Extract-Hollister-Stier; Quack Grass Pollen Extract-Hollister-Stier; Red Top Pollen Extract-Hollister-Stier; Redroot Pigweed Pollen Extract-Hollister-Stier; Russian Thistle Pollen Extract-Hollister-Stier; Sandberg's June Grass Pollen Extract-Hollister-Stier; Sheep Sorrel Pollen Extract-Hollister-Stier; Spring Birch Pollen Extract-Hollister-Stier; Timothy Pollen Extract-Hollister-Stier; Velvet Grass Pollen Extract-Hollister-Stier; Western Ragweed Pollen Extract-Hollister-Stier; Willow Pollen Extract-Hollister-Stier.

Pollen extracts-Hollister-Stier are prepared by extracting the dried pollen with a menstruum composed of 48 per cent of glycerin, 5 per cent of sodium chloride and 47 per cent distilled water. The extract is clarified by Berkefeld filtration. The finished liquid is a 1 per cent extract of the dried pollen, each cubic centimeter representing 10,000 pollen units; 1 unit corresponding to 0.001 mg. of dried pollen.

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

W. A. PUCKNER, Secretary.

Articles Not Acceptable

CLAUDEN NOT ACCEPTABLE FOR N. N. R.

Clauden, manufactured by Luitpold-Werk, Munich, Germany (Eastbrook, Inc., New York, distributer), is claimed to be a harmless, efficient and superior hemostatic for local, oral, hypodermic and intravenous administration. In the advertising German physicians are quoted as having used the product with success, dating back as far as 1916. Clauden is said to be a preparation based on the researches of Professor Fischl of the University of Prague.

Regarding the composition of Clauden, the following statement is made: "It is a peculiar combination, probably of an absorptive nature, of lipoids and certain proteins which are as yet undefined." It is stated by the manufacturer that Clauden is made by isolating the hemostatic substance from pulmonary tissue of slaughtered animals. No evidence is offered to show that the uniform potency of the preparations that are marketed is insured by laboratory control.

The claim is made that Clauden is stable, free from bacteria, and harmless. Satisfactory evidence is not offered in favor of any of these claims, and the claim of harmlessness for intravenous injection is questioned. The material contains protein from the lung tissue of animals, and the question of

foreign protein and anaphylaxis must therefore be taken into consideration. The claim is also made that Clauden produces contraction of the muscular apparatus of the blood vessels, but scientific evidence in support of this claim is not offered. It is further claimed that "The thrombus resulting from the use of Clauden, in addition to being particularly firm, adheres so strongly that one may justly speak of a specific Clauden thrombus." This claim is not supported by adequate evidence. It is further stated, also without scientific support so far as the submitted evidence is concerned, that Clauden has a valuable influence on the healing of wounds.

On the basis of the evidence presented by the manufacturer and distributer, the Council finds Clauden unacceptable for New and Nonofficial Remedies because its potency and keeping qualities are not controlled; because the labels and advertising contain no caution of the possibility of anaphylactic reaction from foreign protein; and because the claims advanced for it are unwarranted.

KALZAN NOT ACCEPTABLE FOR N. N. R.

Kalzan is the name applied to a double salt of calcium and sodium lactate manufactured by Johann A. Wulfing, Chemical Works, Berlin (The Wulfing Company, Inc., New York, distributor). The product is claimed to have none of the irritating properties of calcium chloride and to possess "the advantage of being more readily retained in the tissues than ordinary calcium lactate. This is due to the presence in its composition of sodium lactate, a salt which increases the alkalinity of the blood and enhances the ability of the tissue cells to hold the absorbed lime." The therapeutic indications advanced by the distributor for the use of the product include diseases of the bones, such as rickets, delayed and abnormal dentition, vomiting of pregnancy, tetany and dental caries, pulmonary, gastric and intestinal hemorrhages, epilepsy, convulsions, neuroses, migraine and certain forms of insomnia; infectious diseases, particularly pneumonia, diphtheria and influenza. It is stated that during lactation it prevents the enormous drain on the lime reserve of the mother and promotes the normal growth of the child. It is also said to give good results in aneurysms, boils and hemoglobinuria.

The product is not an original one, since the doublt salt of calcium and sodium lactate has previously been prepared and described (Stecker: Liebig's *Annalen d. Chem.* **91**:352). The combination of sodium lactate with calcium lactate is an unessential modification of an official product, calcium lactate. The claimed advantage of the addition of sodium lactate is that it increases the alkalinity of the blood and makes it possible for the tissue cells to hold more of the absorbed lime. This claim is based on the work of Du Bois and Stolte (*Jahrb. f. Kinderh.* **77**:27, 1913). Since that time Sato (*Am. J. Dis. Child.* **16**:293, 1918) has shown that the addition of alkali to the diet of the normal infant produced not only no favorable effect on the retention of calcium but a distinctly unfavorable one. Furthermore, it has been shown that rickets and tetany are favorably influenced by acid and unfavorably influenced by alkali. In the majority of the conditions for which Kalzan has been recommended, there is no decrease in the alkali of the blood and in some an actual increase. The combination of an alkaline salt with calcium is, therefore, irrational in all of these conditions. Furthermore, in the hemorrhagic conditions mentioned the therapeutic indications are not associated with a lowering of blood calcium, nor have they been shown to be influenced by calcium therapy.

The Council finds Kalzan unacceptable for New and Nonofficial Remedies because it is an unoriginal compound marketed under a proprietary nondescriptive name; because the therapeutic claims advanced for it are unwarranted, and because its use is irrational and unscientific in that this double salt of calcium lactate and sodium lactate is of a lesser therapeutic value than calcium lactate alone.

When the Council's statement of the consideration of Kalzan was sent The Wulfing Company, Inc., the firm sent an extended reply arguing for a revision of the Council's conclusions. The firm also informed the Council that no circular was to accompany trade packages, and that another circular had been revised to omit therapeutic indications; however, another circular, "Calcium Therapy in Diseases of Women," contains numerous unwarranted therapeutic claims. The firm's reply contained nothing which permitted a revision of the decision finding Kalzan unacceptable for New and Nonofficial Remedies; therefore, the Council authorized publication of its report.

HART'S ALIMENTARY ELIXIR OF BEEF NOT ACCEPTABLE FOR N. N. R.

Hart's Alimentary Elixir of Beef, generally referred to in the advertising as "Hart's Elixir," is stated by E. J. Hart & Co., Ltd., to have the following composition: total solids, 20.75%, total proteids (peptones, albuminoids), 2.65%; carbohydrates, 12.0%; alcohol, by volume, 19.5%; sodium glycerophosphate, to each fluid ounce, 6 grains; potassium glycerophosphate, to each fluid ounce, 6 grains; preservatives used, alcohol and glycerin. A statement of composition does not appear, however, on the label or in the advertising, nor is the food value in a given quantity declared. A circular enclosed with the trade package declares: "Hart's Alimentary Elixir is a perfect palatable liquid food and tonic. In the treatment of convalescence from typhoid fever, Hart's Elixir is invaluable." The label contains the following recommendations for its use: "For Convalescents from Typhoid, Malaria, Intermittent, Remittent, Swamp, Scarlet, Fever. For Fatigue caused by Faulty Digestion! For Fatigue caused by Excessive Heat! For all Fevers and all Ailments where Solid Food is contra-indicated."

In 1907 the Council examined the market supply of the so-called liquid mixed or predigested medicinal foods (Reps. Coun. Pharm. & Chem., 1905-1908, p. 63). As a result of this examination the Council reported that these were solutions containing as their essential constituents small amounts of protein substances and carbohydrate preserved by alcohol or glycerin or both, and that their value depended on the protein and carbohydrate contained in them. It was found that none of the preparations examined contained sufficient food material to maintain normal nutrition. To obtain a minimum requirement of calories (1,500 calories in twenty-four hours), from 700 to 1,000 cc. of these medicinal foods would be required, even if the alcohol contained in them were considered to have food value. In many cases the alcohol contained in these quantities was sufficient to keep a patient in an alcoholic stupor.

In view, however, of the considerable use of these liquid predigested foods, the Council decided to admit them to New and Nonofficial Remedies provided they met certain requirements.

Subsequently, the Council decided to omit the liquid medicinal foods of this class which had been accepted, on the ground that their usefulness in present-day dietotherapy lacks substantiating evidence (Reps. Coun. Pharm. & Chem., 1922, p. 47).

Hart's Alimentary Elixir of Beef belongs to the class of liquid medicinal foods and is "fortified" with glycerophosphates, which are now generally considered of little therapeutic value (Reps. Coun. Pharm. & Chem., 1916, p. 32). It is marketed under a name which is therapeutically suggestive, with claims that are extravagant and misleading, and in a way to lead the public to depend on it for nourishment which it does not contain. The Council declared Hart's Alimentary Elixir of Beef unacceptable for New and Nonofficial Remedies.

Prevention Versus Treatment of Disease.—In the past, the physician's whole duty has been to cure the sick after some disease had gained a foothold, the successful physician being the one who was the most skilful in diagnosis and treatment. Physicians in the future, with the best reputations, will be those who possess the ability to forestall and steer their patients away from sickness—and as time goes on, they will become more expert in these respects.—Emerson, G. S.: *New England J. Med.* **198**:90 (March 1) 1928.

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SATURDAY, APRIL 7, 1928

MONGOLISM

Three grades of mental defectiveness are generally recognized: feeblemindedness, imbecility and idiocy. The feebleminded person may become self supporting; the imbecile cannot. The idiot is profoundly defective and sometimes cannot even be taught to attend to the calls of nature. Measured by the Binet-Simon scale, mental defectiveness is otherwise classified: Persons with a mental age of 7 to 12 years are grouped as morons; those between 3 and 7 years as imbeciles, and those who cannot progress beyond 3 years as idiots. White [1] lists thirteen well recognized clinical types of idiocy, one of the most interesting of which is mongolism.

Van der Scheer, in his recent book,[2] tells the story of this freak of nature, which has stimulated speculation in all departments of the biologic sciences from anthropology to ophthalmology, from the curious races of man to the curious cataracts of imbeciles. Much is known concerning mongolism, such as its incidence, its anatomy and pathology, and its stereotyped physical and mental peculiarities. Much is claimed, such as the significance of the last born, birth after a long sterile interval, and the elderly mother. Much is disputed, such as the rôle of the thyroid gland, syphilis and atavism. What does van der Scheer add? First, he clears away the débris of detailed description by dubbing mongolism "a specific pathological product." This idea is the genesis of the term "mongolian malformation" in the title of his book. Secondly, he finds a disproportionate frequency of other, more familiar, malformations in the siblings. Thirdly, he collects data pointing to the maternal as the responsible element on the basis of frequency of miscarriages, premature and still births, malformations in siblings, age and tardiness in the child-bearing period. From this he decides that something happens to the ovum at a certain stage in its evolution, possibly at the point of eye differentiation, which gives rise to the specific pathologic product characterized by a median cranial defect as suggested by others. This defect explains the abnormalities of the face, jaws, nose and eyes. The author estimates that the injury occurs at the sixth or seventh week of gestation and is due to a tight amnion compressing the fetus forward upon itself. The disturbance in the normal development of the amnion is explained on the basis of a faulty implantation of the ovum in consequence of a pathologic uterine mucosa. Completing the picture, van der Scheer states that the signs of mongolism which develop after birth, such as the metabolic, trophic and to some extent even mental changes, are due to the failure of adequate development of the base of the brain where the centers of the vegetative autonomic systems lie. In defense of his thesis the author evidently believes that offense is the best defense. He sets about to attack Cruickshank's ingenious conception that the mongol is a reversion to the orang-utan-mongolian branch of the human tree as distinguished from the gorilla-negro and chimpanzee-white man arborizations. Stimulated by both explorers' flights of fancy, it may not be too remote to suppose that their views are not necessarily mutually exclusive. The insult to the fetus postulated by van der Scheer may occur at the autogenetic moment representing the possible phylogenetic transition from a hypothetic mongolian period. Cruickshank may be forgiven for his phantasy. He has envisaged and assayed the past. Van der Scheer is forgiven for his antagonism. Sweetening his labors with the uses of adversity, he has made a contribution.

1. White, W. A.: Outlines of Psychiatry, ed. 9, Washington, Nervous and Mental Disease Publishing Company, 1923.
2. Van der Scheer, W. M.: Beiträge zur Kenntnis der mongoloiden Missbildung (Mongolismus), Berlin, S. Karger, 1927.

AN EXPERIMENTAL DEFICIENCY DISORDER

In describing the development of the science of medicine at the beginning of the present century, Frederic S. Lee [1] wrote in 1911: "We are continually beset by agencies, powers of pathological darkness, without and within, which, if unopposed, would turn us from the straight and narrow path of health and lead us into chaos. We may oppose these evil agencies in two ways: either through our innate powers of resistance, or by recourse to the help which medical science offers." These newer offerings have been manifold. They included, in particular, the development of defenses against bacterial invaders. To the antiseptics were added vaccines and antitoxins, the latter having since then won many a battle with a variety of infectious agents. Physical therapy, with the inclusion of occasional benefits from electricity, heat and cold, mechanical agents, rest, exercise and massage, gained in vogue. Psychotherapy secured more dignified recognition. The armamentarium of drugs, among the oldest of the agencies for combating disease, was steadily enriched, particularly through the aid of syn-

1. Lee, F. S.: Scientific Features of Modern Medicine, New York, Columbia University Press, 1911.

thetic chemistry. Surgery, made safer through asepsis and antisepsis, entered into a new era of effectiveness and success.

Any one who attempts to review the situation at the present time cannot avoid giving some attention to the specific rôle of nutrition in the preservation of health. Malnutrition is not a new expression; but the alleviation of suffering through correction of faulty diet has taken on a new meaning. The recognition of formerly unappreciated factors that are indispensable to nutritive well being has placed a new interpretation on what constitutes an adequate diet. Amid a sufficiency of calories and protein and inorganic salts there may still be a deficiency of vitamins. Thus the category of dietary deficiency disorders, now definitely including pellagra, beriberi, scurvy and rickets, and implicating the possibility of a few other familiar maladies, has come into prominence. Progress in the study of their problems has been fostered in particular by the circumstance that most of the deficiency diseases of man have their analogues in animal disorders that can be produced experimentally through dietary manipulations. The investigation of avitaminoses is thus put on a more distinctly scientific plane.

It does not follow that all animal avitaminoses have their counterpart in human deficiency disorders. Nevertheless it may be helpful to watch them as they become developed through dietary investigations. On this account attention is called to the recent description by Underhill and Mendel [2] of Yale University of an experimentally produced canine disorder that has some analogies to pellagra in man. The symptom complex includes an inflamed condition of the gums as well as the inside of the lips. There is a "red line" extending round the teeth somewhat analogous to the "blue line" of lead poisoning. Parts of the alimentary mucosa may become hemorrhagic in patches and covered with purulent exudate. A pathologist's report would make a diagnosis of acute fibrinopurulent stomatitis, pharyngitis and ileocolitis. Bloody diarrheas, and sometimes cutaneous lesions were an incidence. Goldberger [3] has compared the symptoms to the condition known to American veterinarians as "black tongue," and remarks on the possibility, if not the probability, that black tongue in dogs may prove to be the analogue of pellagra in man. Black tongue seems to have a geographic distribution in the United States singularly like that of pellagra. In view of the structural changes that are localized through the alimentary tract, being particularly prominent in the buccal cavity, it might be supposed that scurvy was present. According to Underhill and Mendel this is not the case. The disorder can be brought by a ration of meat, dried peas, cracker meal and a vegetable oil, admittedly a poorly selected mixture. One might suspect shortage of protein, vitamins and certain salts. A careful analysis with attempts at corrective diets revealed that the incidence of the disease is not caused by the lack of inorganic salts in the diet. Meat in the diet will not prevent the appearance of the symptoms, although they may be considerably delayed, especially with relatively large quantities of meat. High nitrogen intake, whether in the form of peas or of meat, will not prevent the incidence of the disease, although the symptoms may be somewhat delayed. It would appear, however, that increase of or maintenance of body weight is more easily attained with a high nitrogen level than when smaller quantities of nitrogen are ingested. Vitamin B in the form of yeast, at least as supplied in the form of commercial compressed yeast, cannot be regarded as containing the protective factor. It may prolong life, but eventually the animal succumbs with typical symptoms. Pig's liver prevents the incidence of the disease.

It has been established that butter fat in the diet of the dog, under experimental conditions detailed, will protect the animal against the appearance of the symptoms characteristic of the disease under discussion, and thus serve to maintain life for prolonged periods. Under similar circumstances cod liver oil, known to contain active fat soluble vitamin A, fails to restore the diseased dogs. Evidently this vitamin is not the potent factor in butter fat. The effective substance is apparently quite labile. The presence of the potent factor in butter fat is associated with the color of the butter. As the color decreases, the potency is diminished. Egg yolk contains the effective factor but is apparently less potent than butter fat. Boiled unpeeled carrots are even more effective in curative properties than is butter fat. Lard extracts the potent agent from carrots. It would appear that there is a direct relationship between the presence of carotinoids in the substances tested and the potent factor. Crystallized carotin in relatively small doses is capable of curing the disease condition. In ascribing to this naturally occurring food pigment the rôle of effective factor in the alleviating of the disease symptoms, Underhill and Mendel do so with the reservation of the possible presence of some unknown contaminating substance. If carotin itself is not the effective agent but the action is due to some included compound, the latter must be present in minute quantities and must be an exceedingly potent substance. For the present, from the standpoint of the human clinic, the main interest lies in the demonstration of the interrelation of characteristic disease symptoms with an apparently heretofore undervalued dietary factor. More than likely, the varied manifestations of disorders like pellagra are the expression of multiple deficiencies in which qualitative and quantitative dissimilarities may be expected to occur and to lead to protean rather than strikingly uniform symptoms.

2. Underhill, F. P., and Mendel, L. B.: A Dietary Deficiency Canine Disease: Further Experiments on the Disease Condition in Dogs Described as Pellagra-Like by Chittenden and Underhill and Possibly Related to So-Called Black Tongue, Am. J. Physiol. **83**: 589 (Jan.) 1928.

3. Wheeler, G. A.; Goldberger, Joseph; and Blackstock, M. R.: Pub. Health Rep. **37**: 1063 (May 5) 1922.

MUSEUM FATIGUE

One of the objects of scientific management, the designation given to the modern system of organizing and conducting industrial work, has been to devise methods by which excessive industrial fatigue can be avoided. Bodily fatigue has been shown to have an unmistakable effect on industrial output, so that for economic reasons, if for no other, the condition referred to has called forth intensive study. Investigators have frequently maintained that in industrial work there is an interrelation between fatigue and the health of the workers. Lee [1] has pointed out that fatigue in the individual has its subjective and its objective aspects and hence may be considered from the two points of view of the psychic and the physical. After he has been active mentally or physically, the average man "feels" tired; that is, to him fatigue is a matter of sensation, and his sensations are the sole measure of his weariness; he has no comprehension of any material changes in his body which accompany his feelings. Yet important material changes have occurred. Many of them, however, are still unknown even to the specialist in fatigue and, Lee adds, both the psychic and the physical aspects of the subject are much in need of intensive investigation.

The diminished capacity for work that characterizes so-called fatigue manifests itself in many fields of human activity. Such apathies are undoubtedly to be distinguished from the occupational neuroses, of which writers' cramp is the classic illustration. The latter are diseases of acquired function and as a rule of somewhat highly specialized function, though vocational neurosis has been described as "fatigue disease." In recent years one has heard the expression "brain fag," which is not necessarily a sign of diminished capacity for muscular work; yet a slight change in one's mental state often markedly alters the facility of achievement.

A comparatively new category of human discomfort has been described as "museum fatigue." Almost every visitor to large collections and exhibits can testify to the fag that a survey of them is likely to develop. Museums are intended to evoke pleasure and intellectual satisfaction. These ends all too often fail of accomplishment because of the fatigue which museum inspection develops in undue degree. A recent writer [2] maintains that the first problem of a museum is to gain and maintain its audiences. He insists that the visitor should be interested to such an extent that he will desire to return and that he will tell his friends of the profit he has received with a minimum expenditure of energy. After his visit he should not be conscious of severe fatigue to any greater degree than after a good game of golf, and he should carry away an inspiration and wonder that will strongly impel him to seek further information through means which, in many cases, may be suggested by his visit to the museum. Certain physical conditions conduce to this end. The temperature and humidity should be as agreeable as possible, and the air and objects should have a minimum of dust and dirt. Brown adds that much of the walk way surface should be easy on the feet, and during the entourage of the museum the visitor should have exercised as many different muscles as he would in his "daily dozen." Chairs and stools should be thoughtfully interspersed throughout the exhibits, and provision should be made for accessible dining and lunching to enable the hungry visitor to lengthen his visit and encourage him to make frequent trips to the museum. If the latter were constructed to "human specifications" as Brown has proposed, it would no longer be said, as Cooke [3] remarked not long ago, that a museum should really be a temple of the muses, but to most people it is merely an extensive store house in which they get tired. The effort to abolish "museum fag" is commendable.

1. Lee, F. S., in Diseases of Occupation and Vocational Hygiene, Philadelphia, P. Blakiston's Son & Co., 1916.
2. Brown, F. C.: Building a Museum to Human Specifications, Scient. Monthly, March, 1928, p. 193.

Current Comment

THE PURINES OF THE BLOOD

Ever since the demonstration by Garrod, in 1848, that the blood of gouty persons is at times richer in uric acid than that of normal people, this substance has attracted an unusual amount of attention from the public as well as the physician. Some of the fancies and follies regarding uric acid have been dispelled. No longer is uric acid looked on as the *materia peccans* of most of the ills to which human flesh is heir. The determination a few decades ago that this substance represents an end-product of the metabolic breakdown in the body of nucleic acids and purine substances in general endowed the catabolite with a new and perhaps more scientifically motivated interest. Furthermore, the description of new methods, through the pioneer investigations of Folin and Denis in 1913, whereby uric acid as well as other nitrogenous end-products can readily be estimated quantitatively in a few cubic centimeters of blood, has endowed the purine derivative with the dignity of accurate measurement of its occurrence and possible transformation. Today uric acid takes its place among the nonprotein nitrogenous blood components on the content of which the clinician often relies for guidance in diagnosis, prognosis and therapy. There have been indications for some time, however, that uric acid is by no means the sole purine compound that circulates in the blood. More than ten years ago, indirect evidence was offered that in human blood adenine occurs combined, probably as adenylic acid. The better understanding of the simpler purine complexes, the nucleotides and nucleosides, paved the way for their identification in the body. The nucleosides are compounds of purine or pyrimidine base with sugar.

3. Cooke, F. H.: Century, January, 1926, p. 111.

They are united with phosphoric acid to form nucleotides, which in turn form the structural units that build up the nucleic acids. It need not be surprising, therefore, that "fragments" of the latter should make their appearance here and there in the organism. By means of a new method, Buell and Perkins[1] of the Johns Hopkins School of Medicine have recently demonstrated that the blood of healthy persons may contain from 10 to 30 mg. of adenine nucleotide, $C_{10}H_{15}N_5PO_7.H_2O$, to each hundred cubic centimeters, with an average of 18 mg. Contrasted with the normal figures for uric acid, not exceeding 5 mg. to a hundred cubic centimeters, the content of the one nucleotide already measured in man places it in a relatively dominant position from the standpoint of purine metabolism. The presence of such quantities of circulating purines combined in large molecules such as nucleotides deprives uric acid of the supreme dominance that it long maintained in consideration of the fate of purines in the body. Furthermore, the quantities of adenine nucleotide found in human blood make this compound significant from the point of view of nonprotein nitrogen and acid-soluble phosphorus.

1. Buell, Mary V., and Perkins, Marie E.: Adenine Nucleotide Content of Blood with a Micro Analytical Method for Its Determination, J. Biol. Chem. **76**: 95 (Jan.) 1928.

AN EFFICIENT STOMACH

The daily routine of the physician is beset with so many instances of bodily misfortune that he is liable to share with the layman a belief in the comparative frailty of the human organism. The experience in the clinic and the observations at the bedside involve a continual reiteration of damage to the bodily mechanism, of breakdown in its function, of physical and mental injury and, all too frequently, utter failure of recovery. The untutored person might look on all this as a succession of attempted repairs to an exceedingly fragile organism. The trained and critically minded scientist realizes, on the other hand, that the features just described are mere incidents of minor moment in comparison with the remarkable potencies and the surprising stability of the human body. Only by careful consideration may one reach a true realization of the many factors of safety that make for well being and welfare. There is a surplus of many facilities for ordinary needs. Two eyes, two lungs, two kidneys where one might suffice—these are instances, among many, of the wealth of equipment with which the body is endowed. The immunity against all sorts of microbic invaders and the detoxication of poisons represent some of the chemical defenses. The alimentary tract is ordinarily conceived to be less well protected and to have a delicate structure that renders it more susceptible to harm. How resistant it may actually be, on the contrary, is well illustrated by the failure of many foreign objects to produce serious injury when they are swallowed. Almost every physician has at some period in his career watched with spellbound interest the uneventful journey of an open safety pin through the long reaches of an infant's gastro-intestinal canal. Needles and tacks, glass and iron have made the trip in unnumbered cases through the entire adult bowel. A supreme record of tolerance has lately been published from the Department of Surgery, University of Western Ontario, at London, Canada, by Chalk and Foucar.[1] A demented person who was accustomed to swallow all sorts of straight, pointed and angular metal articles with suicidal intent gradually accumulated an unprogressing collection of these in the stomach. Through a successful gastrotomy, more than 2,500 separate objects were removed. The aggregate weighed 410 grams. This is, apparently, a world's record. The wall of the stomach was thickened, and contracted well after the load was removed, the stomach resuming its normal position. Evidences of hemorrhage, ulceration or perforation, or of perigastric adhesions were lacking. The records contain the memorandum that the patient made an uneventful recovery, but the reader cannot fail to derive an enduring appreciation of the protection that man owes to his often undervalued tissues.

1. Chalk, S. G., and Foucar, H. O.: Foreign Bodies in the Stomach: Report of a Case in Which More than Two Thousand Five Hundred Foreign Bodies Were Found, Arch. Surg. **16**: 494 (Feb.) 1928.

RACIAL PURITY AND RACIAL SUPREMACY

Nowadays one hears much about the deterioration of races and the consequent need of securing certain types of superiority through the preservation of racial integrity. The acrimonious discussion of alleged Nordic perfection and similar themes relating to comparative racial values are still fresh in memory. If the claims that have been advanced are founded on indisputable evidence of a character convincing to a legitimate skeptic, it becomes a matter for national concern to consider how the most fit may be conserved and promoted. Fortunately or unfortunately, the "purity" of racial character can be established in comparatively few persons. Even where one would expect a homogeneous group to exist, racial heterogeneity appears from critical study of the individuals to be prevalent. Indeed, a student is sometimes inclined to ask whether in this country there is any "pure stock" aside from the native American Indian. To those who fear the consequences of the melting pot, a recent study of racial groups in a large university may give food for thought.[2] As Hayes, who conducted the investigation at the University of Illinois, has pointed out, racial traits might be expected to stand out definitely against such a background of cultural similarity. He has considered the scholastic records of thousands of Illinois students in relation to their racial classification. The foremost feature of his investigation was that relatively few of the students at this university could be definitely assigned to any racial group. The student population is thoroughly mixed in blood and is descended mainly from European populations, each of which is mixed. In making the classification, primary importance was given to the factors of physical anthropology—to cephalic index and eye color. Hair color and stature were recognized as less significant but treated as corroborative evidence when, for example, blond hair and high stature accompanied a dolicocephalic index and blue eyes, or when medium stature, stocky

2. Hayes, E. C.: Racial Groups in a University, Scient. Monthly, February, 1928, p. 158.

build and chestnut hair accompanied a brachycephalic index and hazel eyes. The race of their parents, as given by the students, and their names were also treated as having some corroborative value. Thus the classification was far from a haphazard one. Among the few students who could be definitely assigned, the majority were Nordics. The latter group as a whole furnished an average scholastic grade showing "marked inferiority." The upshot of Hayes' study is to allay fears, so far as intellectual accomplishment is concerned, regarding the American "racial mixture." At any rate the Illinois data do not give support to the expected degeneracy from hybridization of races in the United States.

Association News

THE MINNEAPOLIS SESSION

Announcement of Demonstrators for Special Exhibit on Fractures

The Cooperative Committee on Fractures announces the following list who have consented to demonstrate for the fracture exhibit at the Minneapolis session. These men will be prepared to answer questions and to demonstrate the types of apparatus used in the treatment at the fracture booth to which they are assigned. At the exhibit a printed, well illustrated folder showing the accepted basic treatment used for the fractures covered at this year's exhibit will be distributed free to all visitors. A few folders remain from last year's exhibit, which will also be available on request. The Section on Radiology is cooperating with the fracture exhibit by means of film displays covering the fractures to be discussed in this year's exhibit.

Allard, Louis W., Billings, Mont.
Allen, Arthur W., Boston.
Anderson, Roger S., Seattle
Atsatt, Rodney F., Santa Barbara, Calif.
Bendixen, Peter A., Davenport, Iowa
Billington, R. Wallace, Nashville, Tenn.
Burns, Sherman M., Oswego, N. Y.
Caldwell, Guy A., Shreveport, La.
Callander, Cyrus N., Fargo, N. D.
Campbell, Willis C., Madison, Tenn.
Carrell, William B., Dallas, Texas
Carruthers, F. Walter, Little Rock, Ark.
Chatterton, Carl C., St. Paul
Cohn, Isidore, New Orleans, La.
Cole, Wallace H., St. Paul
Conn, Harold R., Akron, Ohio
David, Vernon C., Chicago
Davis, Arthur G., Erie, Pa.
Davis, George G., Chicago
Dickson, Frank D., Kansas City, Mo.
Diveley, Rexford L., Kansas City, Mo.
Eikenbary, Charles F., Seattle
Eliason, Eldridge L., Philadelphia
Francisco, Clarence B., Kansas City, Mo.
Freiberg, Joseph A., Cincinnati
Galbraith, John H., Altoona, Pa.
Garr, Charles C., Lexington, Ky.
Gerster, John C. A., New York
Giessler, Paul W., Minneapolis
Haig, Thomas R., Sacramento, Calif.
Hammond, Roland, Providence, R. I.
Healey, William V., New York
Henderson, Melvin S., Rochester, Minn.
Henry, Myron O., Minneapolis.
Hodgson, Fred G., Atlanta, Ga.
Jackson, Harry, Chicago
Jepson, Paul N., Boston
Jostes, Fred A., Columbia, Mo.
Judy, J. A., Dayton, Ohio
Kennedy, Roderick D., Globe, Ariz.
Kidner, Frederick C., Detroit.
King, Jennings M., Jr., Pittsburgh
Kreuscher, Philip H., Chicago
Lewin, Philip, Chicago
LaFerte, Alfred D., Detroit
MacAusland, Andrew R., Boston
Magnuson, Paul B., Chicago
Marble, Henry C., Boston
Martin, James W., Omaha
Mauck, H. Page, Richmond, Va.
McWhorter, Golder L., Chicago
Milliken, Robert A., Indianapolis
Mumford, Eugene B., Indianapolis
Newell, E. Dunbar, Chattanooga, Tenn.
Noland, Lloyd, Fairfield, Ala.
Orr, Winnett H., Lincoln, Neb.
Peabody, C. W., Detroit
Potts, W. J., Oak Park, Ill.
Quain, Eric Peet, Bismarck, N. D.
Rainey, Warren R., St. Louis
Ritter, Robert O., Chicago
Schrock, Robert D., Omaha
Schumm, Herman C., Milwaukee
Smith, Lemuel D., Milwaukee
Stewart, Joseph E., St. Louis
Thompson, Vernon P., Portland, Ore.
Thomson, James E. M., Lincoln, Neb.
Venable, Charles S., San Antonio, Texas
Wallace, James O., Pittsburgh
White, Joseph W., Greenville, S. C.
Wilson, E. Harlan, Columbus, Ohio
Wilson, Philip D., Boston
Wolcott, W. Eugene, Des Moines, Iowa

Nathaniel Allison, M.D.
William Darrach, M.D.
Kellogg Speed, M.D.
Cooperative Committee on Fractures.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Twenty-Fourth Annual Meeting, held in Chicago, Feb. 6, 7 and 8, 1928

(Continued from page 1046)

FEDERATION OF STATE MEDICAL BOARDS

February 8—Afternoon

Importance of Uniform Blanks for Premedical Qualifications

Mr. C. R. Compton, Wooster, Ohio: Intercommunication is a big word in human interest and in human progress. Men are incessant in efforts to improve communications. Mimetics gave way to spoken language. Then came the alphabet and written language; then the printing press and its outputs. Then the telegraph and the telephone and radio.

So forms and uniform blanks are improved means of communication. Their uniformity increases their clarity and value. The movement for improvement and uniformity began earlier, but its chief progress has been in this decade. Uniform blanks are rapidly coming into use for high school certificates to colleges; for college transcripts to other colleges and universities, and to medical schools; and now to boards of medical examiners. A new blank giving both high school and college work on a letter size page is coming into use. We present it to your view, and explain its use for medical boards. It illustrates the possibilities in other fields. Its value for photostats between reciprocity boards is demonstrating itself. These methods save labor, time and expense. Better yet, they are better understood for their efficiency and uniformity.

There is a fine field for development of blanks that are better, more uniform and more convenient in certificates between medical colleges and medical boards. Perhaps no better field could be named, because medical education is so much alike, and standardized for all the states. Where we now have a babel of our own, we might have a common, national language of our own. In place of a confusion of tongues, why not a vernacular, a community of communications, meanings more clearly stated, more clearly understood, and by a wider circle? This would please in the expression and delight in the ready apprehension. This would spell clarity, convenience, efficiency and progress.

DISCUSSION

Mr. Everett S. Elwood, Philadelphia: The standard form referred to was worked out largely by Professor Compton. It has resulted in the saving of much time and correspondence on the part of our staff. Instead of sending out to the various high schools for the high school record of an applicant to the National Board of Medical Examiners, and to the various colleges which he attended, we now send this certificate form to the last college which he attended before entering the medical school. This form has cut our correspondence almost in two. At the same time, on the other end of the line, it has also saved the principals of high schools from making out detailed forms, and has saved many of the registrars from duplication of work. I wish to add that the national board is ready to place in the hands of the secretary of any state board who so desires photostatic copies of the premedical training of any candidates who come to that board for license on the basis of the national board certificate. We have an arrangement in Philadelphia whereby we can obtain these copies within twenty-four hours; consequently, the application is not delayed. It has occurred to us that possibly the blanks now used for certification of candidates relative to their medical training might also be standardized to some extent.

Dr. C. B. Pinkham, San Francisco: May I ask what steps you take to verify the fact that the documents sent in are authentic?

Mr. Elwood: The candidates send in nothing except their applications and then we communicate direct from the school over the signature of an official and bearing the seal of the school in question.

Dr. T. J. Crowe, Dallas, Texas: We have the national board and the Association of American Medical Colleges to

check on the colleges in which all, or nearly all, of the medical students are registered. I presume that it is the duty of the college to verify premedical credits before they admit a student to their institution. In our state the board of medical examiners issues a matriculation permit, and every matriculant must present the state board's permit. That is issued on the basis of a transcript of his credits from the college or university he attended. The permit is not issued until he has satisfied the state board that he has the necessary credits, two full college years inclusive of twelve semester hours of chemistry, eight of physics, eight of biology and six of literature. Attempting to add a blank of this kind, which is not always easily obtained from the college or the university for the reason that their own graduates are required to pay for an extra copy of credits, is putting unnecessary work on the boards of examiners. Dr. Pinkham's question recalls the fact that I now have a young man in court who presented certified credits, with the seal of the college, stating that he had a certain number of credits in that institution. He was admitted to college, he graduated, and he practiced six or eight years before we found out that it was a fraudulent credit secured by his brother, who attended that institution one year and somehow secured possession of the blanks and the seal of the university and presented what appeared to be a perfectly bona fide credit.

MR. EVERETT S. ELWOOD, Philadelphia: In regard to the integrity of credentials, I wish to say that nearly all applicants for the national board's examinations apply while in their second medical year. We immediately secure their premedical credentials and at the end of their second year we secure a certificate from the dean containing the grades of their first two medical years. At the end of the fourth year we secure another certificate from the dean covering the medical work completed during the third and fourth years. After a year of internship we secure a statement from the superintendent of the hospital relative to the acceptability of the intern service rendered. Through these different lines of contact with the individual's work during the second, third and fourth years of his medical course and his internship as well, it would be almost impossible for fraudulent credentials to be successfully put through.

The Basic Science Law from a New Jersery Point of View

DR. CHARLES B. KELLEY, Trenton, N. J.: Any state having a composite board is vastly more fortunate than is the state that must consider a basic science law and board. If a basic science law is adopted, it must be made a great deal stronger than the proposed one. The composition of the board should be definite and not dependent on political influence with changing governors. The examination should not be the great factor in ascertaining a candidate's knowledge of the basic sciences. A candidate should not be eligible for the examination until he can show a definite amount of study in these basic sciences in an accredited school, and the basic science board or the state department of education should be the accrediting body. The law provides that the certificate in the basic sciences does not entitle the candidate to appear before any professional board; each board may impose further requirements. The medical examining board would undoubtedly require the completion of a good medical education. The chiropractic board, however, may be satisfied to accept the certificate of the basic science board as evidence of adequate preprofessional education. These are not our words, but those of the author, and are rather an indication on his part that the medical board would not think highly of the basic science board certificate. No law is stronger than the power to enforce it, and the enforcement would have to be placed in other hands than the police and the sheriff. The author of the law says that these basic science acts are in effect self-enforcing and that the same policing that will enforce the professional acts will enforce the basic science act. The enforcement, therefore, will be very unevenly administered. A composite board actually representing the various schools of practice is vastly superior to a nonprofessional basic science board with any number of professional boards trailing behind. We believe that multiple boards mean multiple standards and, in the words of Dr. Crowe, "Multiple standards are equivalent to absence of standards." We have no desire to inject any note of discord, but sincerely advise very careful study of the subject by the profession before adopting this act. We suggest the slogan "Look before you leap" as being more fitting than "Marry in haste and repent at leisure." We believe the advice given by the author of this law in his latest article, that it seems to be almost necessary to put a brake on the formulation and enactment of the basic science law, is excellent. To quote the author of the act further: "Don't deceive yourselves if you do draft legislation without knowing just exactly what you want to accomplish, by believing it is going to accomplish everything you hope it will." Profit by the experience of the states that have composite boards; put the weight of the profession behind the idea of obtaining one board, not an indefinite number. On that one board, let every school of the healing arts be represented and then apply the theory of the same examination in all subjects common to those various schools and also provide, what is more important still, that the education received shall be of a certain standard in a school approved by the board. The basic science law has been described at various times as a prescription for the relief of some ill of the body politic. We believe it to be very much of a shotgun prescription and that a composite board is vastly superior and if you cannot obtain a composite board, get along with your present law until you really know how to remedy conditions correctly. "Whatever grip you have, don't lose it."

The Wisconsin Basic Science Law

DR. ROYAL C. RODECKER, Mercer, Wis.: The cults in most states are legalized and have money, friends and influence. Any attempt to place legislation on the statute books derogatory to them will influence the lay legislator who represents the district to state that he would not be a party to legalized persecution. In 1925 in our state, after a vigorous campaign through the schools, libraries, judges, district attorneys, laymen and newly elected legislators, the basic science law was reintroduced, and in 1925 it became a law. The basic science law recognizes the existence of the various cults and at the same time fixes for all practitioners of the healing art a uniform standard. To avoid any prejudices that may arise in the minds of the cults against examinations, a board of lay educators is formed none of whom shall be on the faculty of any department teaching methods of treating the sick. In our state the board is composed of three men, appointed by the governor, and so far not a question of doubt or the finger of prejudice has been pointed at them, questioning the ability or the fairness of these men. Persons who can pass this board are given certificates to show the fact. In making application to this board for examination in the basic sciences, no applicant shall be required to disclose the professional school he may have attended, or what system of treating the sick he intends to pursue. The only prerequisite is satisfactory evidence of a good moral character and preliminary education, equivalent to graduation from an accredited high school of the state. If the candidate is successful in receiving a certificate from the board in basic sciences, he applies to whichever board that examines in the healing art he wishes to follow. We can see the necessity for improvement of the law, which we expect to amend after the legislative committee meets next June. One or more subjects will be added, and probably another examiner will be added to the board.

DISCUSSION ON PAPERS OF DRS. KELLEY AND RODECKER

DR. HAROLD RYPINS, Albany, N. Y.: It is of course preposterous and absurd to substitute an examination for a course of study in a recognized institution. As I told you this morning, Dr. Waite showed conclusively that graduates of 63 per cent of the diploma mills passed the regular state licensing examinations. How much easier to have passed the basic science examination! The point that Dr. Kelley omitted to mention, and which I am sure is important, is that every state that puts in a basic science law puts it in in order to create a peaceful compromise with the cults, and to do so there must necessarily be put in a waiver clause. Last year it was brought out here that several hundred more

cultists got in when the basic science law in Wisconsin went into effect. They became legalized without examination. In Minnesota several hundred or more who were already engaged in practice were simply given their documents and they have gone on practicing. Do you think those gentlemen are going to oppose the basic science law? It is wonderful for them. They don't care about their successors. The waiver clause is the first great weakness in the basic science law, and I want to know whether there is any basic science law without a broad, open waiver. I doubt that there is. A similar weakness, and here I again want to know whether there is any basic science law to take care of this weakness, is the fact that if a man isn't able to pass the basic science law and get his certificate and license he can go out and practice anyway. According to Minnesota, the prosecution of an illegal practitioner rests with every peace officer of the state, and Dr. Kelley summed it up when he said, "Everybody's business is nobody's business." First, you have thrown open, by the waiver, the doors to all cultists practicing now, and, not satisfied with that, you let any one practice who hasn't a license because you are not in a position to stop him. Not satisfied with that, you pat yourself on the back that you are setting up a barrier to inferior practice. It seems to me that this is a combination of fallacies that would be hard to beat.

Dr. W. C. Woodward, Chicago: One of the preceding speakers referred to a waiver clause in basic science laws, and condemned such laws on account of the presence of waiver clauses. I should like to know just what he means by a "waiver clause," and just what basic science laws contain them. It has been stated, too, in the course of the discussion, that a candidate can take an examination under a basic science law, and then go right ahead and practice even though he does not pass the examination. I know it would be helpful to all of us if the speaker who criticized basic science laws because of this alleged weakness would indicate just how such a state of affairs is brought about, or indicate even how a person who passes an examination under a basic science law can proceed to practice without obtaining his professional license. One basic science law has been criticized because it makes it the duty of law enforcement officers throughout the state to enforce it, and the critic suggested that all such laws should be enforced by officers operating from state headquarters. I am sure that some officers charged with the enforcement of medical practice acts would be glad to have him enlighten them as to how they can obtain a sufficiently large number of inspectors, to operate from headquarters at some given place within the state, and to learn within a reasonable time after the sign of an unlawful practitioner has gone up that the sign is there and that the practitioner is violating the law. To maintain a corps of inspectors to patrol city streets and country roads for the purpose of detecting offenses of this character, in the same way that local law enforcement officers patrol them, would call for a considerable appropriation. In legislation and in law enforcement you must look at things as they are, not as you think they are, and not as you would merely like them to be. I was hopeful that we might hear more about the operation of basic science laws in the states where they are in force. It is by the operation of those laws in the states where they are in force that we shall have to judge them—not by the assertions of persons who have studied the laws merely in the statute books.

Dr. H. J. Lehnhoff, Lincoln, Neb.: We have a basic science law in Nebraska. I recognize that it is weak enough. We are going to have a better law in Nebraska. Dr. Rypins says we have to recognize a few facts. One fact for the state of Nebraska is that it has a multiplicity of boards. Our chiropractors have their own board and the osteopaths have theirs. One of the objects of the basic science law in Nebraska was to raise the standard of the healing art in general. Of course, that means to cut out some of the osteopaths and chiropractors and to make the chiropractor, if he must exist, a better practitioner and I believe we have done that. It would be a very nice thing if we could know the course of study that each one of these applicants had before he comes up before the basic science board. If you required that in Nebraska you would never have a basic science board. You can't require it. We have a waiver clause in the basic science law. It isn't the waiver clause that makes this law retroactive. We can't go back and ask all the chiropractors and all the osteopaths to come before the basic science board any more than you could require all the medical men who have been practicing twenty years to come before the basic science board. The chairman of the basic science board is a man of national reputation in pathology, a very fair man. He has been given the right to waive giving examination to an applicant from, say, Illinois, if he knows that applicant has passed an examination given by another board with sufficient requirements to his board. Yet he is afraid to do it because he is afraid of making a distinction between the medical man and the chiropractor and the osteopath. I don't agree with him. Not only does he have the privilege but it is this duty to make the distinction to decide who shall come before this board and who shall not come before this board. I am one of the board of medical examiners. We have nothing to do with licensure whatever except to give our opinion on cases in which we are called in. We have nothing to do with the execution of law. We are an examining board. We examine applicants and send in our grades and recommendations. I am satisfied that an applicant who had not passed the basic science board would have a difficult time in practicing anything of the healing arts in Nebraska.

Dr. E. M. Shanklin, Hammond, Ind.: One of the biggest things said either last night or today was by the militant gentleman from New York when he said that we were spending too much time in making it tough—he didn't use that word, but I am using it as a style of expression—for the person who wants to secure a license to practice medicine instead of spending more time on the enforcement of the act. It is a beautiful thing to sit here in annual session and theorize on certain utopian ideas, but we have overlooked the point of view of the person who has a license honorably secured and wishes to go to another state. With regard to the basic science situation, I will read part of a letter from a personal friend who sought license by reciprocity in Minnesota, based on an Indiana license secured by examination:

> In May I procured from your office my credentials as of license granted in 1905 by examination, and transferred same together with $75 to the state board of Minnesota. The secretary notified me that the new basic science board would have to pass on my credentials.
>
> This new board, which was organized before the examination in June, contained three members, a doctor of medicine, a chiropractor and an osteopath. I presented my credentials but they refused to even look at them, and on practically one hour's notice I took the basic science examination.
>
> Much to my gratification I passed three out of five subjects. I was not surprised that a man who had specialized in eye, ear, nose and throat for over twenty years was not able to discuss the physiology of emptying the stomach, or the pathology of other remote places. I was only surprised that I passed three. At that time I donated an additional $15 to the basic science board.
>
> On October 14 I went back and passed the other two subjects and ten days later went back to Minneapolis and met the state board of medical examiners and was treated as nice as any one.
>
> The reason for this letter to you is to show you that states having basic science boards do not have reciprocity in the full meaning of the term. In fact, Dr. Comstock, the secretary of this state board, tells me he has had a pretty hectic time this summer trying to find out just where we do stand.

Dr. J. R. Neal, Springfield, Ill.: I do not believe it is fitting for states that apparently are not interested in this basic science law to oppose it in a way which does not offer constructive criticism. I assume that all the proponents of the basic science law propose it only for those states that have sacrificed their own law or, in other words, have lost touch with the legislative situation so that there has been created a multiplicity of boards. In Illinois we have succeeded in keeping in active contact with our law making body at Springfield. At the last legislature fifty-three bills were proposed that had some bearing on the medical practice act, and we defeated all of them. I think Dr. Woodward's model law is a step in the right direction, for I assume he did not write that with the idea of asking such states as Illinois and New York and Alabama to accept it, but tried to suggest a unanimity of thought so that the wording of this new idea that has come into the licensure of those who treat human ailments may be uniform. He asks in that article for

constructive criticism. Five states, I understand, have this law in some form but with a wide difference in phraseology and scope. I think his idea is just exactly correct, to get up a model law and see whether we can't agree on a uniform wording so that if other states adopt it we shall have a law eventually along the line of his suggestion. We have been talking about uniform blanks and if we had had some thought of uniform medical laws in the several states twenty years ago we wouldn't have such a diversion of opinions in the courts of today regarding such regulatory matters. The opponents of all medical laws are always on their toes because when I tell you now that there is an uninvited representative of the League for Medical Freedom, and one who opposed the 1923 practice act in this state, sitting among you getting all the data possible, you can see that they are on the alert. They are ever anxious to find out what is going on in conferences of this kind. Illinois does not want this basic science law. But I think something must be done for those states that have three, four or five different examining boards all for the same purpose of licensing those who maintain they have educational qualifications to treat the sick.

DR. SAMUEL H. BOYER, Duluth, Minn.: I was a member of the legislative committee that was instrumental in passing the basic science law in Minnesota, and I am a member of the basic science board of Minnesota. The sole purpose in passing the basic science law was to raise the standard of those who wished to treat the sick in Minnesota. You could not, and never did, do this with the boards of medical examiners as their influence was confined to the regulars only. They raised the standards of the medical schools by way of the leverage they afforded the Council on Medical Education and Hospitals. The basic science boards afford assurance to the public that those who profess to treat disease shall have a fundamental knowledge of normal and pathologic structure and function. In Minnesota no applicant for examination may come before the basic science board who has not a high school education or its equivalent. Our experience thus far is that we have had very few applicants from the cults for basic science examinations. Our theory is that he who has a modern high school education will not only be able to grasp the significance of the basic medical sciences but will know enough to choose the regular medical course or none at all. As I interpret the papers of Drs. Rypins and Kelley, they deal with methods of improving the quality of the coming generations of medical men. They fail, however, to point any way in which to curtail quackery outside the field of scientific medicine. What has been said against multiple boards of examiners I believe to be sound sense. Each state, however, has its own phase of the common problem and must seek that means of solution best suited to the situation confronting it. In Minnesota our present law seems best adapted to our needs. It is, as is nearly all legislation, a compromise law. It recognizes the legalized schools of healing other than regular medicine and also recognizes the demand of the public. We cannot omit consideration of the public from any of our legislative proposals. The people have ideas of their own regarding medical legislation and as to whom they want to doctor them. The various legalized cults always seek gradually to raise their standards of education, seemingly coming to realize, as they work in the field, their great handicap of insufficient knowledge. This inevitably leads them along the trail followed by the late homeopath, until they too are lost and swallowed up in the realm of scientific truth. Our future efforts in Minnesota will be directed toward preventing any legislation legalizing any new or additional cults wishing to establish themselves within our borders. We believe we are in an advantageous position in this respect because of our basic science law and of the composite nature of our board. Should experience teach us that our law is faulty, we can readily amend it. Registration is required of all practicing healing in the state. A proper penalty attaches for failure to register. This requirement has shown us that there are some 600 physicians practicing who are not members of any medical society: a good thing for us to know. Our law does not lower the standard of requirements for regular physicians. The state board of medical examiners still requires an applicant for a state license to present credentials showing that he has had a college training and medical course equivalent to that required by the University of Minnesota. Our basic science law has disorganized reciprocity between Minnesota and the other states. I suspect that this is the element that gives pause to those present today. No doubt, a way will be found to reestablish reciprocity. Remember that a similar situation obtained when Minnesota led the way with the first medical practice law. The difficulties were overcome, however.

DR. W. L. BIERRING, Des Moines, Iowa: How this basic science law is going to increase the standards of medical practice is difficult for some of us to understand. The distinguished visitor from the British Isles has stated several times at this conference that education and examination are the warp and woof of the educational system of Great Britain. Certainly the basis of qualification for the practice of medicine should be that the candidate is qualified to take this examination in the basic sciences. Under the present system, this board in Minnesota examines in pathology a candidate who at no time has probably looked through a microscope, who has nothing more than a high school education; and yet he is examined alongside a graduate from a complete medical course of the University of Minnesota. If that elevates the standards of the practice of medicine it is difficult to see it. It elevates the cultist, but is not this for us a distinctly backward step? If we had a basic science law in which the qualification for these examinations in the basic sciences was well set forth, then we would have a filter or a central agency which would sift out those who were not properly prepared to go on in the further qualifications in the healing arts. Of course, such a law would not be popular and probably can never be passed.

DR. H. M. PLATTER, Columbus, Ohio: I don't think the basic science law has a thing to do with medical licensure. The experience that has been given here this afternoon of qualified people paying as much as $190, graduates of recognized medical schools, is deplorable. I have had a similar one in Ohio of a class A applicant who held a B.S. degree and who was practicing in Kentucky. She was licensed by an examination in the state of Minnesota. When she made application to Ohio we asked her to make application on the basis of her Minnesota licensure. Then it developed that while she was in Europe the basic science law was passed in Minnesota. She was told she would have to pass the basic science law examination, which would cost her $25, and pay five years' back dues, and her railroad fare and hotel expenses to appear before the Minnesota board. Instead, she wrote the Ohio examinations and received her certificate. The serious thing is the interference with reciprocity.

DR. F. C. HYDE, Greenwich, Conn.: In Connecticut we have a much better basic science law than has been discussed here today. It has been going for a year now with great success, and it is a protection to the public. The secretary of the commissioner of health told me last week that in the year and a half since it has been in operation he has had no question in issuing licenses to applicants. The quality has distinctly improved. In the same period, our own board failures have decreased by 75 per cent. Our healing arts board, the so-called basic science board, does not inquire into the qualifications of the applicant. They must be graduates of reputable schools of the kind under consideration. They must be reputable chiropractors, if there is such a thing. This law, for us, I am sure is a marked advance. Sir Norman Walker said this morning, "It is notorious that legislative enactment is imperfect," and he also said, "We are not interested in the theory of a medical applicant. We are interested in his foundation." Of course, ideally, we should have one board which examines all applicants for the healing arts. But, unfortunately, in Connecticut, that seat of medical examining iniquity, this is the best we can do.

DR. C. B. KELLEY, Trenton, N. J.: I won't attempt to answer all of these discussions, but would like to emphasize the fact that I divided my paper into two parts. The first portion was to show that any state that has a composite board does not need a basic science law. The second portion of the paper attempts to show that those states that feel that

a basic science law is necessary should give it very careful consideration before enactment. The model law as proposed by Dr. Woodward has not been adopted in any of the five states that have a basic science law. All of these laws differ from one another and they are all different from the model law. In my opinion Nebraska's basic science law is probably the worst and Connecticut's probably the best. As far as my paper not being constructive is concerned, I feel that if you will take the time to read it when it is published, you will find that there are a number of constructive ideas. I had no desire to be destructive. If I were to have said what I really thought about the basic science law, it would have been worse. I feel that I have offered several constructive ideas. My last thought is: If you want to adopt the basic science law, take Dr. Woodward's advice and know what you want before you go after it.

(To be continued)

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

ALABAMA

Dr. Pack Goes to New York.—Dr. George T. Pack, for five years professor and head of the department of pathology, University of Alabama School of Medicine, University, has accepted an appointment at the Memorial Hospital for Malignant Diseases, New York, and will take up his new duties, July 1.

Dr. Stuart Graves Appointed Dean of Alabama Medical School.—President Denny of the University of Alabama announces the appointment of Dr. Stuart Graves of Louisville, Ky., as dean of the School of Medicine of the University of Alabama to succeed Dr. Clyde Brooks, who has been appointed chairman of a newly created faculty committee on research, for which the last legislature made a special appropriation. The appointment of Dr. Graves is said to be the first step in a program to establish a four year medical course at the university. Dr. Graves will also be professor of pathology, in which work he has been engaged since 1914 at the University of Louisville School of Medicine, where, since 1922, he has been dean. President Denny also announced the appointment of an advisory council which will assist in making plans for the four year medical course. The members will be Drs. Graves, Samuel W. Welch, state health officer, James S. McLester, professor of medicine, and Dr. Denny. A study of the best medical schools and teaching hospitals in the United States will be made in launching this program. Full-time men in major branches are contemplated, with a hospital affiliated with the university devoted primarily to the care of indigent sick, to the training of physicians and nurses, and to medical research. Dr. Brooks will remain in the faculty as professor of physiology. Dr. Graves will take up his new duties in the fall.

ARIZONA

State Medical Meeting at Tucson.—The thirty-seventh annual meeting of the Arizona State Medical Association will be held at Tucson, April 19-21, with headquarters at the Hotel Santa Rita. Dr. Edward H. Skinner, Kansas City, Mo., will speak on "Radium Treatment in Cancer of the Cervix and Menopausal Bleeding." The fraternal delegate from Texas will be Dr. Felix P. Miller, El Paso, and his subject, "Surgical Problems Pertaining to Surgery of the Lung and Chest Wall." The fraternal delegate from New Mexico will be Dr. George S. Luckett, Santa Fe, and his subject "Public Health Measures in Poliomyelitis." The fraternal delegate from California will be Dr. Henry Dietrich, Los Angeles, and his subject "Diagnosis and Treatment of Poliomyelitis"; Dr. John C. Wilson, Los Angeles, will discuss "Orthopedic After-Care in Anterior Poliomyelitis"; Dr. Martin G. Fronske, Flagstaff, "Epidemic Poliomyelitis with Case Reports." The other speaker in this symposium will be Dr. Kimball Bannister, Phoenix. There will be a symposium on cholecystitis by Drs. Frank J. Milloy, William Warner Watkins, E. Payne Palmer and William O. Sweek, all of Phoenix. Dr. Arthur C. Scott, Temple, Texas, will give the oration in surgery on "The Cancer Problem." Dr. William L. Brown, El Paso, will speak on "Life, Growth and Reproduction of Bone in Its Relation to the Healing of Fractures." Speakers in the symposium on tuberculosis will be Drs. John W. Flinn, Prescott; I. D. Loewy, Fort Whipple, and J. J. Beatty, Tucson. The annual banquet will be Friday evening and the smoker, Tuesday evening, and special entertainment will be arranged for the wives.

CALIFORNIA

Personal.—Dr. Hugh J. Strathearn, formerly of the Hollywood Hospital staff, has been appointed medical director of the Catalina Hospital, which is being renovated and equipped as an independent hospital unit made necessary, it is said, by the growth of the resident population on Catalina Island and by the number of visitors which, last year, amounted to several hundred thousand.——Dr. Peter Paul Baron has been appointed health officer of the city of Dorris to succeed Dr. Sanford W. Cartwright.

Case of Bubonic Plague.—A case of bubonic plague occurred at Santa Cruz, January 23, according to *Public Health Reports*, which, at first, was suspected by the attending physician of being tularemia, but was diagnosed clinically as plague, and the diagnosis confirmed by bacteriologic examinations. The last case of human plague in Santa Cruz County occurred in July, 1922, and plague, the *Reports* say, has not been found in rodents in that county since Sept. 27, 1922. Intensive rodent control work, including squirrel and rat extermination, is being prosecuted in the vicinity of Santa Cruz throughout a 5 mile zone.

Symposium on Medical Education at San Francisco.—The San Francisco County Medical Society will conduct a symposium on medical education, April 24, in which representatives of the University of California and Stanford University medical schools, medical practitioners and the clergy will be represented. Drs. Robert Langley Porter and William Ophuls, deans of these schools, will discuss "The Medical School's Point of View"; Dr. John Graves, Sr., "The Profession's Point of View"; Dr. Ray Lyman Wilbur, Past President of the American Medical Association, "The Patient's Point of View," and the Right Rev. E. L. Parsons and Prof. Charles A. Kofoid, Sc.D., of the department of zoology, University of California, "The Community's Point of View."

Los Angeles to Have Medical School.—At a luncheon, given by the University of Southern California in honor of Dr. Ray Lyman Wilbur of Stanford University and a group of sixty Los Angeles physicians, March 26, it was announced that the University of Southern California College of Medicine is to be reopened, and that the trustees have agreed to set aside $500,000 as an endowment. The personnel of a committee of sixty-two members of the medical alumni of the university and graduates of other medical schools, to counsel with the university on the restoration of a class A medical school, was made public. The Los Angeles *Times* notes that it is in effect two committees working jointly, one comprising local physicians not alumni of the university, of which the chairman is Dr. Wayland A. Morrison, chairman of the educational committee of the Los Angeles County Medical Society, and the other, graduates of the University of Southern California College of Medicine, of which the chairman is Dr. Wesley W. Beckett. The date of opening of the medical school, the location of the buildings, and details of organization and curriculum will be announced after further consultation with the joint committee. The University of Southern California College of Medicine suspended operations during the World War.

DISTRICT OF COLUMBIA

University News.—The new medical school building of Howard University, Fifth and W streets, N.W., will be formally opened, April 9-10; there will be clinics and demonstrations, and all laboratories will be open for inspection.

Personal.—Col. Bailey K. Ashford, medical corps, U. S. Army, who recently retired from active service, has been appointed by the government of Porto Rico as its representative in the International Congress of Tropical Medicine and Hygiene to be held at Cairo, Egypt, December 28.

Committee Favorable to "Diploma Mill" Bill.—The committee on the District of Columbia has favorably reported to the Senate the so-called diploma mill bill which would place institutions conferring degrees in the district under

strict government regulations. The report, which was written by Senator Capper of Kansas, chairman of the committee, states that Washington has been made the headquarters for the incorporation of hundreds of fraudulent "institutions of learning," under which the incorporators practically have sold degrees of all kinds. Briefly, the bill provides that a license from the board of education be a prerequisite to the conferring of degrees in the district, except the institutions incorporated by a special act of Congress; that applicants for licenses for institutions conferring degrees must furnish evidence of good character, of their qualifications, of bona fide work and study done by those to whom degrees are issued, and of the proper equipment of the school to conduct the courses offered; that names of groups be restricted to prevent deception by way of implying official connection with the U. S. Government, and that the licenses of institutions violating the act be revoked with right given them to a public hearing and of appeal to the courts.

ILLINOIS

Society News.—The Rock Island County Medical Society held its second graduate review at Rock Island, March 13. The program was given by members of the faculty of the University of Illinois College of Medicine, Chicago.——Dr. Henry E. Irish, Chicago, addressed the Warren County Medical Society, Monmouth, recently, on "Prevention and Treatment of Heart Disease," and Dr. Aaron Arkin, Chicago, "Differential Diagnosis of Pulmonary Lesions."——Dr. Jacob P. Greenhill, Chicago, addressed the Winnebago County Medical Society, Rockford, April 3, on "Obstetric Cases Shown in Motion Pictures."

Personal.—Dr. Henry Hertel recently completed his fiftieth year in the practice of medicine, all but a few months of which have been spent in Freeburg.——Dr. George D. Heath, Jr., Springfield, has been appointed health commissioner of the city of Bloomington. Dr. Heath has been an assistant in the Illinois State Department of Health.——Dr. Wilbur H. Gilmore, Benton, has been appointed in charge of the roentgen-ray work of Illinois Masonic Hospital, Chicago. Dr. Gilmore formerly was a member of the state board of examination and registration, and for several years was secretary of the Illinois State Medical Society.

Hospital News.—The M. A. Montgomery Memorial Sanatorium, Charleston, which has been operating since 1896, closed, February 29, it is reported, for financial reasons.——Mr. James A. Patten of the Chicago Board of Trade has pledged to give about $30,000 toward the building of the addition to the Sandwich Hospital, provided the community secures the remaining $40,000 necessary. Mr. Patten was born at Freeland Corners.——The men's and women's building of the La Salle County Sanatorium, Ottawa, was to close, April 1, on account of a reduction in the appropriation by the board of supervisors. This will leave only the infirmary, which accommodates about twenty patients, in operation.

State Infested with Rabid Dogs.—Illinois has a serious rabies problem, according to the state health department. Last year seven persons died of rabies, more than for any other year on record. The laboratory has found positive for rabies dogs' heads from about 100 municipalities. The cities from which the greatest number came were Decatur, Evanston, East St. Louis, Harrisburg, Clinton, Marion, St. Francisville and Taylorville. The foci of infection seem to be centered in Cook County in the north of the state, Jackson County to the south, St. Clair and Madison counties on the Missouri border, Crawford and Sangamon counties on the Indiana line, and a central area comprising Sangamon, Christian, Macon, Logan, DeWitt, McLean and Morgan counties. No case in man or dog has been reported north of Peoria except in Cook County. Dogs which bite people should not be killed but kept under close observation of a physician or a veterinarian and the persons bitten should have prompt medical attention. The state department of health will, on request, send a bulletin giving detailed information about rabies.

Chicago

Institute of Medicine—The Dodson Lecture.—Under the joint auspices of the University of Chicago and the Institute of Medicine, the third John M. Dodson Lecture of the Rush Alumni Association will be given, April 16, at the University of Chicago Clinics, 4:30 p. m., by George Barger, professor of biologic chemistry, University of Edinburgh, on "The Thyroid Hormone." At the next meeting of the Institute of Medicine, April 27, at the City Club, 8 p. m., Dr. Richard H. Jaffee of the University of Illinois College of Medicine will speak on "Functional Studies in the Relations Between Kupffer Cells and Liver Cells"; Dr. Stephen W. Ranson, Northwestern University Medical School, "Variations in the Ductility of Muscle with Special Reference to Myostatic Contracture," and Reuben M. Strong, Ph.D., of Loyola University School of Medicine, "Abnormal Pigmentations and Associated Color Phenomena."

The Frances E. Willard Hospital Moves.—The Frances E. Willard Hospital, which for about twenty-five years has been located at 710 South Lincoln Street, has purchased the Austin Hospital at Central Avenue and Flournoy Street, overlooking Columbus Park. The entire staff of the Frances E. Willard Hospital, with additions to meet the requirements of a 200 bed hospital, will be moved to the new location. During the convention of the National Women's Christian Temperance Union, 1883, the subject of organizing a hospital to demonstrate the possibility of treating disease without the use of alcohol was introduced. The hospital was opened, March 16, 1886, at 3411 Cottage Grove Avenue; in 1892 it moved to 1619 Diversey Boulevard and, in 1900, to 167 South Sangamon Street. The cornerstone of the building at 710 South Lincoln Street was laid, Sept. 28, 1903, and the name changed to the Frances E. Willard National Temperance Hospital Association. In early years the institution had difficulty in meeting financial obligations, but in 1923 it was declared free from debt.

Society News.—Dr. Richard C. Gamble addressed the Chicago Ophthalmological Society, March 19, on "Histopathology of Eyes After Various Operations," and Dr. George R. McAuliff on "Visual Defects in Industrial Ophthalmology."——Dr. Frederick B. Moorehead addressed the Chicago Medical Society, March 14, on "Problems of Plastic Surgery About the Head," and Dr. Thomas C. Galloway, Jr., Evanston, on "Sinus Diseases in Children."——The Medical and Dental Arts Club of Chicago was formally opened, March 13, at a dinner attended by about 425 persons. At a business meeting following the program, Dr. Gilbert Fitzpatrick was elected president of the club for the coming year, and Dr. William Allen Pusey, secretary.——A joint meeting of the Institute of Medicine and the Chicago Pediatric Society was held at the City Club, March 23; Richard E. Scammon, Ph.D., of the University of Minnesota Medical School, discussed "Some Newer Aspects of Child Growth and Physiologic Anatomy."——Among others, Dr. Alice Hamilton, assistant professor of industrial medicine, Medical School of Harvard University, Boston, addressed the sixth annual Midwest Safety Conference of the Chicago Safety Council, March 19, on "Industrial Health and Its Relation to Accident Prevention."——Dr. Isaac A. Abt, president of the Chicago Medical Society, addressed the Kalamazoo Academy of Medicine, Kalamazoo, Mich., March 20, on "Influence of the Weather and Seasons on the Health and Growth of Children."——Dr. Daniel N. Eisendrath addressed the Chicago Medical Society, April 4, on treatment of kidney infections in adults and children, and Dr. Maurice L. Blatt on neuromuscular disturbances in childhood (movies). The April 11 program will be an obstetric meeting, Dr. Edward L. Cornell reading a paper on "Hyperemesis Gravidarum" and Dr. Frederick H. Falls on "Management of Eclamptogenic Toxemia."——Dr. Morris Fishbein, editor of THE JOURNAL, will address the Chicago Tuberculosis Society, April 19, at the Medical and Dental Arts Club, on "Health Education of the Tuberculous."——The Chicago Surgical Society met, April 6, at the University of Illinois Research Hospital in the morning and at the John B. Murphy Memorial, 50 East Erie Street, in the evening for a series of scientific papers; among others, Drs. Joseph F. Smith, Wausau, Wis., and Warner S. Bump discussed Mikulicz's disease.——The municipal tuberculosis sanatorium has placed in the public schools of Chicago twenty-five specially trained physicians and twenty-five tuberculosis nurses to make physical examinations of the school children. Defects found will be referred to the private physician. The directors of the sanatorium request the sincere cooperation of practicing physicians in the correction of these defects.——Physicians and other scientific workers are invited to a meeting of the Midwest Association of Sigma Xi, Thursday evening, April 12, at the Masonic Temple Building, 32 West Randolph Street. The address will be given by Willis R. Whitney, director of research, General Electric Company.——The city health officer has requested members of the Chicago Dental Society to offer their services as examiners to make a dental survey of children of public and parochial schools through the department of health and the Chicago Dental Society.

MAINE

Meeting of Child Health Council.—The organization of a state child health council was perfected at a meeting in the state house, March 14, at which Dr. Clarence F. Kendall, state health commissioner, was elected chairman. In addition to the state department of health, the department of education and the University of Maine, about twenty-five other organizations are cooperating in a campaign to improve the health of children. Community celebrations will take place on May Day, and a survey will be made of the work to be done in the coming year. Among the speakers at the organization meeting were Augusta O. Thomas, LL.D., state superintendent of public schools of Maine, Dr. Barbara Hunt, Bangor, and Dr. Kendall.

MARYLAND

Dr. Katzenellenbogen Appointed Associate Professor.—Dr. Solomon Katzenellenbogen, former chief resident physician at the Hospital Canton, Geneva, Switzerland, and lecturer in internal medicine at the University of Geneva, has arrived in Baltimore to take over his new duties at the Johns Hopkins University. Dr. Katzenellenbogen will be associate professor in psychiatry at the Johns Hopkins University School of Medicine, and will also have charge of the department of internal medicine at the Phipps Psychiatric Clinic.

Dr. Collinson to Head Bureau of Vital Statistics.—Dr. John Collinson, Jr., has been appointed head of the bureau of vital statistics of the state department of health on a full-time basis to succeed Dr. Frederic V. Beitler, resigned. Dr. Collinson is a graduate of Johns Hopkins University School of Medicine and the School of Hygiene and Public Health, and an ex-intern at the Johns Hopkins Hospital. He has been connected with the state department of health since 1916, his latest position having been assistant chief of the bureau of communicable diseases.

Arrangements for Examining School Children.—The state department of health, cooperating with parent-teacher associations and the state department of education, is making arrangements for the examinations of children who will enter school for the first time this year, so that physical defects may be discovered and corrected before school opens in the fall. There will be special conferences for the prospective first graders, in addition to the health conference that is held each month in each county under the auspices of the bureau of child hygiene. During 1927, the bureau examined at these conferences 6,725 babies and young children. More than two thirds of the older children have not been immunized against smallpox. The state law requires children to be vaccinated before entering school.

Hospital News.—The cornerstone of the William H. Welch Medical Library at Johns Hopkins University School of Medicine was laid March 14. The president of the university, Frank J. Goodnow, LL.D., placed in the stone a copper box containing correspondence between Dr. Welch, the university and the General Education Board, whose financial help made the library possible. A number of persons, including the president of the board of trustees of the university, Daniel Willard, and prominent physicians, were present.——A new annex to the Emergency Hospital, Annapolis, is being constructed; it will be a four story building and will add 100 beds. Recently, the main portion of the old building was destroyed by fire.——The campaign for funds for the Eudowood Sanatorium which closed, March 28, succeeded in raising about $340,000, which will enable the sanatorium to pay its debt, make certain improvements in facilities and start off with an endowment of $200,000.

MICHIGAN

Personal.—Dr. George W. Jones, Imlay City, was guest of honor, February 18, at a dinner at the home of the Wayne County Medical Society, Detroit, to celebrate the completion of seventy years in the practice of medicine. His son, Dr. Morrell M. Jones, was host, and Dr. George V. Brown was toastmaster. Dr. Jones, the guest of honor, was presented with a platinum watch.——Dr. James W. Scott has resigned from the staff of the Michigan Home and Training School, Lapeer, effective April 1, and will engage in practice in Detroit.——Dr. Angus McLean, Detroit, was awarded a medal from the military college of medicine and surgery of the University of Warsaw, Poland, March 20, which was bestowed by the Polish consul in the auditorium of the Wayne County Medical Society. Dr. McLean, among many others, was one of four representatives of the United States at the international congress of surgery, medicine and pharmacy at Warsaw last year.——T. L. Patterson, Ph.D., professor of physiology, Detroit College of Medicine and Surgery, has been appointed acting professor of physiology at Stanford University for the summer quarter, and will be located at the Hopkins Marine Station, Pacific Grove, Calif.

Society News.—Dr. Don M. Griswold, deputy state health commissioner of Michigan, addressed the Oakland County Medical Society, Pontiac, March 15, on "County Health Units"; the April meeting will be addressed by Dr. George C. Burr, Detroit, on "Tuberculosis of the Kidney."——The Alpena County Medical Society was addressed, February 10, by Dr. Duncan A. Cameron on "Jenner and Smallpox," and by Dr. Carl V. Weller of the University of Michgian Medical School, Ann Arbor, on interpretation of the Wassermann reaction.——The Berrien County Medical Society, meeting in two sections at Benton Harbor and Niles in January, decided to publish a delinquent debtors list in an effort to stop "progressive doctoring." The society felt that general practitioners are being imposed on by those patients who make "faked emergency calls" and "unable-to-get-their-doctor calls." It was pointed out by the secretary that most of the members have their charity families and patients whom they are glad to assist.——The fifty-fifth annual meeting of the Northern Tri-State Medical Association (Michigan, Ohio, Indiana) will be held in the auditorium of the Detroit College of Medicine and Surgery, April 10; the clinicians and speakers will be from the faculties of the University of Indiana, Western Reserve University, Toronto University, University of Michigan and Detroit College of Medicine and Surgery. Members of the Wayne County Medical Society and the Michigan State Medical Society are cordially invited. ——Dr. Julius Bauer, professor of medicine, University of Vienna, was the guest of the Detroit Academy of Medicine, April 5. Members of the Wayne County Medical Society were invited to a clinic on hyperthyroidism at the Harper Hospital, and to hear Professor Bauer's address on "Obesity" in the auditorium of the Detroit College of Medicine.——Dr. Alexis Carrel, Rockefeller Institute for Medical Research, New York, gave an address at the Henry Ford Hospital, Detroit, March 21, on "New Studies on Malignant Cells."

MISSOURI

Presidents' Night.—The sixth annual "Presidents' Night" was given by the Jackson County Medical Society, Kansas City, at the Athletic Club, April 3. Dr. William L. McBride gave a toast to "Our 'Fifty Year' Members," of whom there were ten; Dr. Charles E. Hyndman, St. Louis, spoke on "Medical Defense," and Dr. Henry S. Houghton, dean of the State University of Iowa College of Medicine, Iowa City, on "Medicine in China." There are twenty-one living past presidents of the Jackson County Medical Society.

Alumni of St. Louis City Hospital.—The Medical Society of the St. Louis City Hospital was recently reorganized at a meeting of the alumni of the hospital. This organization had, since the World War, lost touch with many of its old members. Any ex-intern of the St. Louis City Hospital will be reinstated in good standing on payment of this year's dues. A social meeting is being planned for sometime in June, and a roster of living members from 1875 to 1928 is being arranged. All members in outlying states are requested to communicate with the secretary of the society, Dr. Jesse J. Burdick, 2106 East Grand Boulevard, St. Louis. The president is Dr. William T. Coughlin.

St. Louis' Tuberculosis Problem.—The *Bulletin of the St. Louis Medical Society*, March 29, is largely occupied by a discussion of the tuberculosis problem of that city. It appears that the Trudeau Club has presented to the medical society a resolution dealing with this problem and suggesting steps for correcting the situation. The society adopted the resolution and referred the matter to a special committee which will confer with civil authorities on ways and means for carrying out the resolution. There is an insufficient number of hospital beds to handle the active cases of tuberculosis, and there are from 100 to 150 applications on file for admission to the one public tuberculosis sanatorium. The dispensary facilities appear to be satisfactory. The Trudeau Society recommended bond issues amounting to $2,450,000 for the erection and equipment of buildings at city hospitals 1 and 2, and at the Koch Hospital. There are now about 620 beds in St. Louis for tuberculosis patients and a few available at Mount Vernon for early cases. There is a striking need for beds for colored patients.

NEBRASKA

Medical Facilities at Omaha.—An attractive reprint from "Omaha's Own Magazine and Trade Review," entitled "Omaha—A Real Medical Center," has been received. There are pictures and descriptions of Omaha's hospitals. The author refers to a survey made in 1926 which disclosed that health activities there involved an investment of around $10,000,000 and represented an annual turnover of more than $5,000,000. There is a history of the state college of medicine and of Creighton University School of Medicine. Following this article are others about the Omaha County Medical Association and the nurses.

Medical Exhibit at State Fair.—An interesting account of the first exhibit of the Nebraska State Medical Association at the state fair last September is given by the chairman of the committee, Dr. Edward R. Hays, Falls City, in the March number of the *Nebraska State Medical Journal*. The board of managers of the fair was so favorably impressed that it has offered the association an entire building for next year; consequently, plans are being made for a more elaborate exhibit. Special features in view are a series of prepared lectures and a health examination of one person from each county in the state. Among other things, the exhibit last year consisted of pathologic specimens from the University of Nebraska College of Medicine and Creighton University School of Medicine; photographs of deficiency diseases; many charts on food values and nostrums, and cages of white rats and guinea-pigs. A few persons would saunter into the booth, the report says, and ask questions and while these were being answered a crowd would gather. These explanations evolved into short lectures on various diseases given in simple language, following which "Keep Well" pamphlets were distributed; 5,000 persons had visited the booth and heard at least part of the lectures on the first day.

Second Unit of University Hospital Opened.—About 3,000 persons attended the opening of the second unit of the hospital of the University of Nebraska College of Medicine, Omaha, recently. The plan is to make other similar additions as needed, extending west from the first hospital building. The new unit makes a total of 250 beds, all for medical teaching. There are two children's, two psychopathic, one medical and two surgical wards, and additional library space with accommodations for 100 students and a stack room for 80,000 volumes. The building is five stories high and, including equipment, cost $350,000. On the first floor is the roentgen-ray and physical therapy department, a medical amphitheater, a record room and photographic rooms. This addition now permits the enlargement in the first unit of space allotted for operating rooms, resident physicians' quarters, clinical pathology, and the admitting department.

NEW YORK

First Smallpox Death in Three Years.—In a lumber camp in Waverly, Franklin County, February 18, the first death from smallpox in the state of New York since January, 1925, occurred. The direct cause, according to *Health News*, was a complicating pneumonia. The report had the effect of causing many to be vaccinated.

Cattaraugus Society Appoints Advisory Committee.—At the request of the Cattaraugus County Board of Health, the Cattaraugus County Medical Society has appointed a committee to supervise and to work in conjunction with the county health officer in connection with the administration of the health work and the operation of the health demonstration. According to the Salamanca *Inquirer*, the members of the committee are Drs. Leslie J. Atkins, Olean; Leo E. Reimann, Franklinville; William E. McDuffee, Olean; Philip H. Bourne, Salamanca, and Frank E. Howard, Olean. The officers of the county medical society are said to be ex officio members of the committee.

Changes in Assistant Physicians.—The following appointments and resignations of assistant physicians in the state hospitals of New York were recently noted:

Lorrimer B. Armstrong, Central Islip State Hospital, resigned.
George C. Bower, Willard State Hospital, resigned.
James J. Cecil, Manhattan State Hospital, resigned.
DeBert W. Connell, Kings Park State Hospital, resigned.
Harry Friedenberg, Binghamton State Hospital, resigned.
Herman Goodman, Middletown State Homeopathic Hospital, resigned.
Louise J. Gordy, Kings Park State Hospital, resigned.
Charles W. Hutchings, Utica State Hospital, appointed assistant.
Isadore Lewis Jerge, Buffalo State Hospital, resigned.
James P. Kelleher, Manhattan State Hospital, resigned, appointed clinical director, Hudson River State Hospital.
Sarah R. Kelman, Manhattan State Hospital, resigned.
Louis Kiss, Brooklyn State Hospital, promoted to assistant.
John Levy, Manhattan State Hospital, resigned.
Jason P. Sanders, Manhattan State Hospital, resigned.
Joseph H. Welch, Manhattan State Hospital, appointed assistant.
Walter E. Scribner, Binghamton State Hospital, resigned.

Undulant Fever.—From Jan. 1, 1926, to March 26, 1928, there had been reported to the state department of health twenty-four cases of undulant fever, one of which was an infection by *Bacillus melitensis* acquired in the state laboratory. The state department of health considers that the other cases were probably caused by *Bacillus abortus*. There was one definite outbreak of three cases of undulant fever in Newark, in Wayne County, each from a different family but all using grade A raw milk from a farm on which five cows had aborted. Blood serum from these cows agglutinated *B. abortus* in high dilution. With the exception of this outbreak, the epidemiologic evidence is not very conclusive of the relationship of milk to the means of transmission. Contagious abortion of cattle is said to be prevalent in the state of New York.

New York City

Gift for Leper Station at Cebu.—Eversley Childs has made a gift of $180,000 in the campaign to raise funds for the Leonard Wood Memorial for the eradication of leprosy which will be used to establish a treatment station at Cebu in the Philippine Islands for the milder cases of leprosy. Cebu is about 75 miles from the great leper colony at Culion. Mr. Child's gift will provide means of segregating the less advanced cases.

Harvey Lectures—One Postponed.—The sixth Harvey Lecture, which was to have been given at the New York Academy of Medicine, April 13, by Dr. E. J. London, director of physiology, University of Leningrad, Leningrad, Russia, on "Experimental Fistulas of Blood Vessels," has been postponed until April 20, 8:30 p. m. The seventh Harvey Lecture will be given, April 27, at the academy by Dr. Thomas Addis, professor of medicine, Stanford University School of Medicine, San Francisco, on "The Renal Lesion in Bright's Disease."

Interns Eligible for Other Appointments.—The chairman of the press reference committee of the Medical Society of the County of Kings, Dr. Frank D. Jennings, is reported to have authorized the statement, March 17, that the interns who are members of the society who recently left the Unity Hospital (THE JOURNAL, March 24, p. 990) are eligible for designation as interns in another hospital. The interns voluntarily appeared before the board of censors and told the story of conditions which they claim caused them to quit. Two of the interns, Drs. Sidney M. Barth and Morris Podnos, are said to have accepted reappointment at the Unity Hospital.

Thousands Attend Opening of Medical Center.—More than 15,000 persons are reported to have visited the buildings of the new medical center at One Hundred and Sixty-Eighth Street and Broadway which were open to the public, March 16. The six units opened were the Presbyterian Hospital, the Sloane Hospital for Women, the Squier Urological Clinic, the Harkness Pavilion, the Anna C. Maxwell Hall for Nurses and the Presbyterian Hospital School of Nursing Practice. The decorative features of the buildings are unique and give them a homelike atmosphere. The College of Physicians and Surgeons of Columbia University will move into its new quarters in June, and the school of dental and oral surgery and the state psychiatric institute in the fall.

Blizzard Class Reunion.—The class of March 12, 1888, of Bellevue Hospital Medical College, which graduated during the memorable storm and has since been known as "The Blizzard Class," will celebrate its fortieth anniversary,

April 14, at the McAlpin Hotel, the host again being an alumnus of that year, Dr. David Hunter McAlpin. Invitations have been sent to about seventy members, and any member who has not been reached is requested to communicate with the acting secretary, Dr. S. Adolphus Knopf, 16 West Ninety-Fifth Street, New York. Dr. McAlpin wishes any one of the "old boys" who has a son who has followed in his father's footsteps to bring him to the dinner so as to make the occasion memorable for two generations.

Personal.—Dr. Frederic E. Sonderin has been appointed chairman of the advisory council of the city health department which was recently organized by the health commissioner and which includes representatives of the county medical societies, the academy of medicine, the bar association and the sanitary engineers.——Dr. Aaron Levinsky has been appointed adjunct assistant visiting physician, pediatric service, Harlem Hospital.——Sir St. Clair Thomson, professor of laryngology, Kings College Hospital, London, will be guest of honor at a dinner of the International Medical Club of New York, April 14, at the Union League Club.——Dr. Norton D. L. Fletcher has been appointed a surgeon director of the Manhattan Eye, Ear and Throat Hospital.——Dr. Walter M. Brunet has resigned as director of the division of medical measures of the American Social Hygiene Association to become executive secretary of the committee on social hygiene of the New York Tuberculosis and Health Association.——The exhibition of physicians' art works at the academy of medicine will remain open until April 15. There are about 400 pieces on display.

New York Has 1,161 Clinics—Other Welfare Agencies.—The Consolidated Directory of Social Agencies, published, March 19, by the Charity Organization Society and the Welfare Council of New York and twenty other groups of social agencies, shows, according to the council, that there are 1,161 clinics in New York. Of these, 840 are in Manhattan and the Bronx, 299 in Brooklyn and Queens, and twenty-two on Staten Island. There are ninety-one general hospitals and eighty-five special hospitals represented. In addition to the clinics, there are 426 agencies and institutions engaged in health work. There are 439 organizations engaged in family welfare, 380 organizations in child welfare, and 367 agencies and 1,474 churches under the council's classification of recreation, education and neighborhood activities. It is impossible, the welfare council states, to say exactly how many social agencies there are in the city, because many are active in two or more fields, but the council estimates that the total is about 1,200. The executive director of the council, Mr. William Hodson, considers these figures significant as indicating the resources for social service, but that it would not be safe to make deductions from them as to the adequacy of these resources. A study, financed by the Laura Spelman Rockefeller Foundation and the Commonwealth Fund, is being made by the research bureau of the welfare council with the cooperation of the agencies themselves, and authentic information will be available as to the need within a year or two. The new directory for the first time incorporates all social agencies according to their functions, and gives a brief statement concerning the nature of service each is equipped to render. Mr. Hodson says the directory indicates that New York has the largest and most efficient welfare machinery in the world, and that it is the nation's capital for such endeavor, 280 national health and welfare organizations having headquarters there.

OHIO

Hospital News.—A dinner was given, February 11, in honor of those members of the staff of St. Vincent's Hospital, Toledo, who have served twenty-five years. They are Drs. Otto Landman, Oscar Hasencamp, James T. Lawless, Sr., Thomas Hubbard William W. Coleham, John A. Wright and Lyman A. Brewer.

Health at Cincinnati.—Telegraphic reports to the U. S. Department of Commerce from sixty-eight cities with a total population of about 30 million, for the week ending March 24, indicate that the highest mortality rate (22.9) was for Cincinnati, and that the mortality rate for the group of cities, as a whole, was 14.8. The mortality rate for Cincinnati for the corresponding week last year was 16.8, and for the group of cities, 13.3.

Society News.—Dr. Thomas A. Copeland was elected, January 2, for the twenty-second time as secretary of the Athens County Medical Society.——Dr. Carl J. Wiggers, Cleveland, addressed the Toledo Academy of Medicine, February 3, on "Registration of Heart Sounds from the Viewpoint of the General Practitioner."——Dr. Cyrus C. Sturgis, Ann Arbor, Mich., addressed the Mahoning County Medical Society, Youngstown, February 16, on "Pernicious Anemia."——Sir Wilfred T. Grenfell, medical missionary in Labrador, was guest of honor at a dinner of the Jefferson County Medical Society, Steubenville, January 13.——Dr. Philip H. Cosner, Newark, council for the eighth district, addressed the Guernsey County Medical Society, Cambridge, recently, on "Modern Treatment of the Tuberculous Patient."——The Muskingum County Academy of Medicine held a symposium, February 1, on pneumonia; the speakers were Drs. Loren E. Grimes and Ward D. Coffman, Zanesville, and Robert E. Wells, Nashport.——The Columbus Academy of Medicine was addressed, February 13, by Dr. Elijah J. Gordon on "The Cardiac Arrhythmias," and by Dr. Clayton McPeek on "Treatment of Cardiac Failure."——Dr. Walter G. Stern, Cleveland, gave an illustrated lecture on "Problems of Modern Orthopedic Practice" before the Seneca County Medical Society, Tiffin, March 15.

PENNSYLVANIA

Society News.—At a meeting of the Pittsburgh Academy of Medicine, Pittsburgh, March 27, Dr. James M. Strang gave an address on "Energy Exchange in Obesity," and Dr. John H. Wagner on "Plastic Surgery"; Dr. David B. Ludwig reported a case of double uterus.

Philadelphia

Society News.—The Medical League held a symposium on hemorrhage, March 26; motion pictures of the meeting were taken.——Among others, Drs. Jacob Bernard Bernstine and Thaddeus L. Montgomery addressed the Philadelphia Urological Society, March 26, on "Treatment of Gonorrhea During Pregnancy."——Dr. Austin M. Curtis, professor of surgery, Howard University School of Medicine, Washington, D. C., addressed the Philadelphia Academy of Medicine, March 19, on "The Acute Surgical Abdomen."——Dr. Hugh S. Cumming, surgeon general, U. S. Public Health Service, will address the annual meeting of the Philadelphia Heart Association, April 11, on "Heart Disease as a Public Health Problem."——Among the features of the celebration of Health Day, March 28, was a fashion show in the medical society building, Twenty-First and Spruce streets, sponsored by the women's auxiliary. Health programs were carried out by school children throughout the city.——There will be a special meeting of the Philadelphia County Medical Society, 8:30 p. m., April 18, when Dr. Paul R. Correll, Easton, will speak on public health legislation. This will take the place of the April 11 meeting, which will be omitted.

The Largest Collection of Harveiana.—The committee in charge of the tercentenary celebration of William Harvey's publication of "De Motu Cordis" at the College of Physicians of Philadelphia, March 22, prepared a remarkable exhibit of Harveiana. It presented Harvey's writings, relics and associations, and the works and portraits of his predecessors, contemporaries and more important commentators on his work. Translations of relevant passages in the books were placed near them. The rare editio princeps of Hippocrates was opened at the page describing the heart's contractile action, and an early Galen at the place where he contradicts Erasistratus' view that the arteries contain air; Vesalius' Fabrica pointed out the impermeability of the ventricular septum, and an early work of Eustachius, with portrait, was included to recall his forgotten discovery of the thoracic duct and the lymphatic element in the circulation. Harvey's teacher, Fabricius, appeared both for his connection with Harvey and for his description of the valves in the veins. Harvey's immediate predecessor, Servetus, was represented by an original edition of the "De Trinitatis Erroribus" and by a direct transcript of the section in the "Restitutio Christianismi" in which he describes the pulmonary circulation. Of Harvey's own works there were shown twenty-two of the twenty-eight existing editions of "De Motu Cordis." This is considered the largest collection in existence. His rare letter to Riolan and several editions, including the first, of "De Generatione Animalium" were in an adjacent cabinet, together with an original teacup and saucer from his household bearing the Harvey coat-of-arms; also a copy of his will, books about his works and portraits. The controversy that followed the publication of "De Motu" was well illustrated by original copies of the works of Riolan the younger, Primrose, Parisanus and many others. In addition to the pictures in the Harvey corner of the College, established when the College building was first opened, the committee had gathered many other pictures and portraits of Harvey's family, of his collateral descendants, of the site of his residence in Folkstone, of his burial place

in Hempstead and many other memorabilia connected with Harvey's life. The exhibition was visited by many physicians and medical students, and a goodly number of laymen.

TEXAS

Personal.—Dr. Henry C. Hartman has resigned as dean of the University of Texas School of Medicine, Galveston, and as professor of pathology, effective September 1.—— Dr. Thomas W. Grice, Fort Worth, has been appointed an associate medical director of the American National Insurance Company, Galveston.

Health at San Antonio.—Telegraphic reports to the U. S. Department of Commerce from sixty-six cities with a total population of about 30 million, for the week ending March 17, indicate that the highest mortality rate (25.7) was for San Antonio, while the mortality rate for the group of cities as a whole was 14.9. The mortality rate for San Antonio for the corresponding week last year was 13.8, and for the group of cities, 14.1.

VIRGINIA

Memorial to Dr. Fletcher.—Friends of the late Dr. Howard Fletcher, Warrenton, have presented to the Fauquier Hospital a tall clock with chimes as a memorial to be placed in the hospital. Dr. Fletcher died suddenly the day before the formal opening of the hospital, in which he was much interested. He was formerly president of the Medical Society of Northern Virginia, Maryland and the District of Columbia.

Automobile Deaths of Children.—During the fourteen years from 1913 to 1926, automobile deaths in Virginia have increased from a rate of 1 per hundred thousand of population to 12, according to the state department of health. Nineteen per cent, or 217 of all the automobile deaths in the five years from 1922 to 1926, were in children under 14. The age of highest fatality was between 5 and 9 years; 100 children in that age period were killed. The bureau of vital statistics concludes that automobile deaths of children are usually due almost wholly to carelessness and taking chances. The preventive remedy, it is said, is warning and instruction with the inculcation of the habit of obedience to parents and teachers.

WISCONSIN

Society News.—Drs. Frederick A. Stratton and Francis D. Murphy, Milwaukee, addressed the Outagamie County Medical Society, March 15, on "Diagnosis and Treatment of Goiter," and "Diagnosis and Treatment of Pernicious Anemia," respectively.

Drugs for Trypanosomiasis to Be Tried in Africa.—The John Simon Guggenheim Memorial Foundation has allotted a fellowship to Warren K. Stratman-Thomas, Ph.D., research pharmacologist of the University of Wisconsin Medical School, Madison, in order that he may go to Stanleyville, Belgian Congo, Africa, to test out new drugs which have been successful in the treatment of experimental trypanosomiasis. Dr. Stratman-Thomas has been working in Madison with Dr. Arthur S. Loevenhart, and in Africa he will work in the laboratory of Dr. C. C. Chesterman, secretary of the Royal Society of Tropical Medicine and Hygiene.

GENERAL

Twenty Per Cent of Disabled Officers Are Physicians.—In a recent discussion on the floor of the Senate of the Tyson bill, the object of which is to give emergency officers of the World War, who were disabled to the extent of at least 30 per cent, the retirement privileges of regular army officers, Senator Bingham obtained consent to have printed in the *Congressional Record* the names of all those officers, their occupation, age, extent of disability, monthly compensation received and amount which they would receive in case the Tyson bill became law. The list includes about 3,000 emergency officers. It is of great interest to note that 577 are listed as physicians, an extremely high percentage.

Society News.—The American Association of Medical Progress has undertaken the publication of a quarterly, *Medical Progress, A Journal for Laymen*, as a means of bringing members of the association closer to the staff and of effecting a wider diffusion of facts. Benjamin C. Gruenberg, 370 Seventh Avenue, New York, is editor.—— The American Association for the Study of Goiter will hold its fifth annual meeting in Denver, June 18-20, under the presidency of Dr. Gordon S. Fahrni, Winnipeg, Canada. Among others, Professor Breitner, Vienna, and Professor Kocher, Berne, Switzerland, have accepted places on the program. All members of state medical societies are invited to attend.

Conference on Hospital Service.—At the annual meeting of the American Conference on Hospital Service, Chicago, February 6, Dr. Frank Billings was again elected honorary president, and Dr. Harry E. Mock, president. The delegates requested the trustees to study the purpose for which the conference was organized and after comparing the purpose with the work accomplished to use it has a basis for an outline of future activities which the conference should foster. The delegates inspected the new quarters of the hospital library and service bureau which have been provided without charge by the American Hospital Association at 18 East Division Street, for which courtesy the conference voted its appreciation. The constituent members of the conference comprise fourteen national associations.

International Convention on Cancer Research.—The grand council of the British Empire Cancer Campaign has announced that an international convention on cancer research is being arranged for July in London. Invitations are being sent to persons in all parts of the world who are closely associated with cancer research. Sir John Bland-Sutton, past president of the Royal College of Surgeons, has accepted the presidency of the convention, and the Royal Society of Medicine has placed its headquarters at the disposal of the committee for the purpose of the meetings. The work of the convention will be divided into the sections of pathology, medical treatment, surgical treatment, radiologic treatment and public health and statistics. Sir Richard C. Garton has made a generous donation toward the expense of the convention and none of the funds of the British Empire Cancer Campaign will be used. The king's second son, the Duke of York, is president of the cancer campaign.

News of Epidemics.—About 100 cases of measles were reported in Carlisle and Nicholas County, Ky., March 23, when additional cases were being reported daily.——Thirty cases of measles were reported in the lower grades of the Fairview Avenue School, Hackensack, N. J., March 20, when the rooms were closed for fumigation.——The outbreak of smallpox at Ottawa, Ill., had subsided, March 19, when there were only three homes in the city under smallpox quarantine, and not a new case had been reported for a week.——The schools of the Mount Olive and Sharon districts in Illinois were reported closed, March 16, for three weeks on account of an epidemic of measles.——The outbreak of measles in Detroit had reached 880 cases, March 16, when 125 cases were being reported daily.——The Spaulding Corner School, Grand Avenue and Green Bay Road, near Libertyville, was closed, March 14, on account of an outbreak of scarlet fever. ——A pneumonia record for the year was made in Chicago, March 27, it is reported, when in the previous twenty-four hours 151 new cases were reported.—— Wyanet, Ill., schools were closed, March 19, because of an outbreak of twelve cases of scarlet fever.——The Geneseo, Ill., schools were closed, March 23, because of an outbreak of influenza, mumps and scarlet fever.——The city schools of Ashland, Wis., were closed, March 28, because of an outbreak of influenza; about 280 high school students were reported absent.——About 500 cases of measles are reported to have developed in the vicinity of Mayfield, Ky., in the two weeks preceding March 24.——Smallpox continued to develop at Peru, Ind., March 28, about one new case a day being reported and about eighteen persons being in quarantine. The outbreak has been in progress for about two months. —— An extensive outbreak of measles was reported from Alamo, Tenn., March 27.——The first smallpox reported at Hagerstown, Md., in three years was four cases announced by the county health officer, March 12.

Health Situation in Typical Small City.—A two year study has been made by the U. S. Public Health Service of the health situation in a typical small city in an eastern state in which the population was in no remarkable respects unusual. The data were gathered by experienced investigators who made house to house visits. The principal object of the study was a record of illnesses experienced by an average group of people. The rate of sickness from colds and bronchitis was the highest, being annually 418.6 per thousand persons; influenza and grip came second with a rate of 413.2 per thousand of population; diseases of the digestive system, 96.5; tonsillitis and sore throat, 65.7; confinement and other puerperal causes, 46.9; diseases of the nervous system including headaches, 44.1; accidents and other external causes, 39.5; measles, 34.2; whooping cough, 22.6; rheumatism and lumbago, 21.8, and heart and circulatory diseases, 18.3. Nearly 80 per cent of the illnesses recorded lasted three days or longer. Illness was far more frequent under 10 years than at any other time of life. The picture

given by the record of sickness according to causes is in sharp contrast, the public health service states, to that given by causes of death. For example, respiratory diseases account for 60 per cent of sickness as against 20 per cent of deaths. The general group of epidemic, endemic and infectious diseases account for 8 per cent of illness, whereas only about 2 per cent of the deaths were due to this group. On the other hand, the diseases of the heart and blood vessels which caused only 2 per cent of the sicknesses caused 24 per cent of the deaths. In each thousand persons in this community, thirty-four were affected with arthritis, lumbago and myalgia; twenty-two with neuralgia, neuritis and sciatica; twenty-one with diseases of the heart; ten with chronic indigestion and other intestinal disorders; ten with appendicitis, and seven with nephritis. One of the most important lessons from this study, the public health service considers, is that public health has, as yet, barely touched the task of preventing the conditions which manifest themselves in physical and mental impairments, inefficiency and illness, and postponable deaths.

FOREIGN

Hospitals in China Resume Operation.—Only one of the fourteen hospitals and dispensaries maintained in China by the Methodist Episcopal Church is now closed following interruptions caused by recent military and political disturbances, according to the St. Louis *Globe-Democrat*. The University Hospital at Nanking, however, is reported to be still used as a "nationalist barracks," and the Alden Spear Memorial Hospital, Yenping, has been taken over as a military hospital.

Personal.—Prof. S. Fujii of the pediatrics department of Aichi Medical College, Nagoya, Japan, has been appointed dean of the college, succeeding Professor Oguchi, resigned. ——Sir Humphry D. Rolleston, regius professor of physic, Cambridge University, London, was awarded the honorary degree of doctor of laws by Jefferson Medical College and the degree of doctor of science by the University of Pennsylvania, March 22, at which time he took part in the three hundredth anniversary celebration of William Harvey's discovery of the circulation of the blood.——Dr. William J. Howarth, for many years medical officer of health of London, England, has resigned because of ill health.

London Hospitals Ban Women Students.—John Steele, writing from London for the Chicago *Tribune*, says that Kings College, Westminster, Charing Cross, London and St. George's hospitals have placed a ban on the acceptance of further women students following a protest of the male students on the following grounds: Women interfere with athletics; they distract the men from their studies; women are not successful as physicians; the sexes cannot mingle in the study of medicine. Women's organizations in London, he says, will challenge the legality of the decision made by the University of London on the ground that the regulations of the university hold that no distinction of sexes shall be made regarding candidates for degrees.

New Chairs at School of Tropical Medicine.—The London School of Hygiene and Tropical Medicine invites applications to new chairs to be instituted in biochemistry and in public health. Commenting on the latter position, the *British Medical Journal* says that the duties of the new chair will not be light. Its holder will be responsible for training postgraduate students from all parts of the empire and will be expected to suggest, guide and supervise research, besides playing a great part in developing the relations of the school with local authorities and securing their cooperation; in organizing the outdoor courses of prospective health officers, and in reviewing courses for those already in the public health service.

Medical Meeting at Tientsin.—Naval medical officers attached to the third brigade, U. S. Marines, now stationed in China, were hosts, February 27, to a large assemblage of physicians and dentists of Tientsin at the brigade hospital where, after a dinner, medical papers were presented, followed by a discussion. The toastmaster was Lieut. Comdr. Charles S. Stephenson, who leaves shortly to be transferred to the fleet. Among the speakers were Lieut. Comdr. Thomas C. Anderson on "Postoperative Massive Collapse of the Lung," and Lieut. Comdr. Erral W. Willett, "Dental Focal Infection as a Cause of Morbidity." Cases were presented by Lieuts. (j. g.) James R. Fulton and French R. Moore. Among the guests were medical officers from the Fifteenth U. S. Infantry, from the British forces, French forces and Italian forces, and others who reside at Tientsin.

Portraits of John Hunter.—An exhibition of maps, sketches and photographs which give a picture of the "Homes of the Hunters" during the latter half of the eighteenth century and what they look like today was displayed at the Royal College of Surgeons, London, February 13-19. In the *British Medical Journal*, February 11, a number of portraits of John Hunter are commented on by Sir Arthur Keith. The editor of the *Medical Press and Circular* appears unable to make much out of the portraits, as that by Reynolds gives Hunter a low forehead, while the portrait presented to the college by Mr. Buckston Browne shows a high forehead. Hunter's cranium, the editor says, judging from the pencil drawing by Sir Nathaniel Holland and the engraving of Tassie's medallion, rose up well above the base line. The Hunter portrait in the Apothecaries' Hall is the same pose as the portrait by Reynolds in the college of surgeons, but Hunter has a beard in the former. Sir Arthur Keith suggests that Reynolds was dissatisfied with this picture and succeeded in having Hunter shave his beard and have a plaster cast made of his face. The Hunterian oration was delivered at the college of surgeons, February 14, by Sir Holburt J. Waring, and the Thomas Vicary lecture on "The Homes of the Hunters" by Dr. George C. Peachey, February 16.

Government Services

U. S. Public Health Service

Surg. Ora H. Cox has been relieved from duty at San Juan, P. R., and assigned to the marine hospital at Port Townsend, Wash. Asst. Surg. Forrest M. Evans has been relieved from duty at Baltimore and assigned to St. Thomas, Virgin Islands. Asst. Surg. Clarence D. Kosar has been relieved from duty at New York and assigned to Boston. Leslie L. Lumsden has been promoted to the grade of senior surgeon, and Franklin J. Halpin and Gregory J. Van Beeck to the grade of passed assistant surgeon. Acting Asst. Surg. Charles F. Bolduan has been relieved from duty at Bremen, Germany, and assigned to Ellis Island, N. Y. Asst. Surg. Ralph Horton has been relieved from duty at Baltimore and assigned to marine hospital number 7, Detroit.

Navy Personals

Capt. William A. Angwin has been assigned to the naval hospital, Boston, for duty. Lieut. Comdrs. James F. Hooker, Thomas L. Morrow and William H. H. Turville have been ordered to attend a course of instruction at the Harvard Graduate School of Medicine, the University of Pennsylvania Graduate School of Medicine, Philadelphia, and the New York Post-Graduate Medical School and Hospital, New York, respectively. Lieut. (j. g.) Fred E. Angle, attached to the U. S. S. *Arkansas* has tendered his resignation.

The Kahn Test in the Army

The surgeon general's office has issued a circular letter regulating the use of the Kahn test as an aid in the diagnosis of syphilis in the army. It reads in part as follows:

1. During the past two years the precipitation test (Kahn), as an aid in the diagnosis of syphilis, has been subjected to extensive trial throughout the army. It is the consensus of opinion that the Kahn test is in certain respects superior to the complement fixation test (Wassermann) as carried out in army laboratories, in that it gives positive reactions earlier in the primary stage of syphilitic infection and a larger percentage of positives in cases of latent and treated syphilis, but that it has the serious fault of giving a considerably higher percentage of so-called false positives.

2. The value of the precipitation test as a further aid in the diagnosis of syphilis is recognized and appreciated by all army clinicians and laboratory workers, but for reasons indicated above it is not deemed advisable that it replace the complement fixation test.

3. The use of both the complement fixation test and the precipitation test (Kahn) is authorized as a routine procedure in laboratories throughout the army having the facilities for carrying out such serological tests, both reactions to be reported as a matter of routine.

4. In forwarding blood serum for serological examination of cadet candidates for West Point, and of applicants for commission in the army, the request for examination will always specify that both Wassermann and Kahn reactions will be reported, and laboratory examinations in such cases will be expedited. If the report in such cases indicates that the specimen was anticomplementary for the complement fixation test and negative for the Kahn, the latter test will be accepted. In case of disagreement between the two tests, in the class of cases covered by this paragraph, the medical examiners will make a statement, based on physical and other findings, as to whether, in their opinion, the possibility of syphilitic infection can be definitely excluded.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 12, 1928.

The Future of Tropical Hygiene in Africa

A paper read by Dr. A. R. Paterson, deputy director of sanitary service in Kenya, on "The Provision of Medical and Sanitary Services for Natives in Rural Areas," is of interest. He points out that medical work in Africa is being affected by the introduction of mechanical transport, and also by "the outstanding feature of African life today—the universal desire for education." Further, central and southern Africa are very rapidly becoming Christianized, and so half a continent, almost within a generation, is acquiring a philosophy which will, without doubt, have no small effect on the outlook and behavior of the people. These are the favorable signs. Against them must be set the facts that the standard of living is very low, that physical development is in many cases poor, and that millions of men, women and children live under primitive and fundamentally insanitary conditions. The birth rate, the death rate and the infant death rate are high. The last mentioned is from 300 to 400 per thousand births, as compared with an English rate of 70. Plague and malaria are endemic in many areas, while various parasites take toll of the health of the people. Dr. Paterson suggests that the minimum medical and sanitary service for a large rural native district in Africa with a population of from 100,000 to 200,000 ought to consist of one district medical officer, one health officer, one dispensary medical officer, two European nursing sisters, one European sanitary inspector and possibly a European hospital assistant, and a storekeeper. In addition there should be a sufficient number of adequately trained and disciplined native subordinate staffs, a hospital with accommodation for about 100 patients, and from six to twelve outdispensaries. In Dr. Paterson's view education in health knowledge must be carried on as rigorously as possible, because this is the only certain way to success in the future.

The Troubles of Medical Socialism

In previous letters to THE JOURNAL some of the bad effects of the national insurance health act were described and shown to arise inevitably from its socialistic character. An acute controversy is now taking place in the lay press because the government has to make an increased grant of $1,000,000 for sickness benefit in 1927, though this was an unusually healthy year. The explanation suggested is that the prevalence of unemployment led to claims for sickness benefit which were too easily endorsed by the panel physicians. It is said that some physicians are not sufficiently strict in certifying incapacity for work because of fear that the insured person will transfer to the list of a more complaisant physician. A weak attempt to put a check on this course was made last year by imposing a fortnight's delay in such transference. In the discussion on the vote for the million dollars in the House of Commons a medical member, Dr. Davies, said that one of the fundamental difficulties of the insurance act was certification and the free choice of physicians. As long as there was free choice there would be loose certification. In an editorial the *Times* suggests that a strong pressure is brought to bear on physicians to extend to the utmost limits the period of incapacity, and doubts whether any restrictions on free choice of physician will prove an effective check on undue claims for benefit. The *Times* does not consider that the temptation to grant sickness certificates in doubtful cases as a rule springs from the desire to retain the patient but from the physician's instinct to do the best he can for the patient. The leading newspaper thus reaches the extraordinary conclusion that family physicians are unfitted by instinct and training for arriving at judicial decisions as to the working capacity of their patients and suggests routine examination by the regional medical staff, which now examines only special cases referred to it by the benefit societies when a patient's certified period of incapacity appears too long. Replying to this, Dr. Cox, medical secretary of the British Medical Association, does not accept the conclusion of the *Times* that a large number of panel physicians are lax in giving certificates, and is shocked at the conclusion that family physicians are unsuited for arriving at judicial decisions as to the working capacity of their patients. He is surprised at the suggestion of such a "bureaucratic remedy method of dealing with the problem" and argues that estimation of ability to work is a matter of extreme delicacy in which the knowledge of personality and home conditions is often the main factor—a factor which would be unknown to the official examiner. In reply to Dr. Cox, the *Times* says that relaxation of control in certification is shown by the statement made by Dr. Dain, chairman of the Insurance Acts Committee of the British Medical Association at the annual panel conference last October. He spoke of "the ease with which insured persons appeared to be getting certificates stating that they were incapable of work" and went on to describe "the wholesale growth" of canvassing for patients. In Scotland the same trouble is in evidence. In the House of Commons Sir John Gilmour, secretary of state for Scotland, spoke of "a great feeling of apprehension" on the part of approved societies that "the medical profession is not taking that amount of care in giving this relief that might be expected of them."

The Quakers in Science

In THE JOURNAL, Jan. 4, 1924, p. 55, was published a paper, read before the Lambda Alpha Medical Society by Prof. Davenport Hooker of Pittsburgh, on "Thomas Young, Physician and Scientist," who "left his pioneer mark on a wider range of subjects than any man ever has done." This Quaker made basic contributions to science in ophthalmology (mechanism of accommodation, color vision, physiologic optics); physics (undulatory theory of light, "interference," cohesion of fluids, chromatics and physical optics); Egyptology (deciphering of the Rosetta stone); political science (tables of mortality, life assurance); medicine (heart and arteries); music; shipbuilding, and hydraulics. He introduced the term "energy" into physics. It is of interest to pass from this greatest of Quaker scientists, whose genius suggests comparison with Newton, to the astonishingly large part which Quakers have played in science in general and in medicine in particular. Mr. F. Hanbury Hankin, government analyst at Agra, India, has published a collection of essays entitled "Common Sense and Its Cultivation," the outcome of a life largely spent in India in an official position. Among other topics he deals with the mental ability of members of the Society of Friends, who as a result of their religious tenets were in the past driven to concentrate on business careers, education and the study of nature. This small religious community, numbering less than 20,000 in Great Britain in 1900, has formed an important recruiting ground for the Royal Society, the fellowship of which is the highest scientific distinction obtainable in the British Empire and the hall mark of original achievement. In the period 1851-1900 there were on an average probably 17,000 Quakers in Great Britain, and among them there were nineteen fellows of the Royal Society, as against 817 non-Quaker fellows. Per million of the population this works out to the surprising figure of 1,117 for Quakers against 24 for the others. This means that a man had about forty-six times more chance of election to

the Royal Society if he was a Quaker or of Quaker descent than if he belonged to the general population. After Young, the most eminent Quaker scientist was John Dalton, the chemist, celebrated for the atomic theory of matter.

To medicine this little sect has supplied a galaxy of ability of the first order. Thomas Young was a physician, but his standing in this capacity is quite overshadowed by his fame as a physicist. Thomas Dimsdale, F.R.S., was well known for his work on smallpox and inoculation. William Tuke founded the first retreat for the insane in England. Fothergill and Lettsom were eminent physicians in a past generation. Thomas Hodgkin was well known both as a pathologist and as a philanthropist; he is immortalized in the eponym "Hodgkin's disease." But in the last generation were the most eminent names of all. Jonathan Hutchinson was the leading clinician of his age. He was not only the greatest authority on syphilis and dermatology but as an observer and investigator of all sorts of rare manifestations of disease has had no equal. Finally, there was Lister, whose "name liveth for ever more."

Increase of Cancer of the Lung as Result of Mechanical Transport

Sir Arbuthnot Lane has brought forward an ingenious theory to account for the increase of cancer of the lung. Figures have been supplied to him from the pathologic departments of hospitals at Vienna and Zurich. According to those from Vienna the percentage of cancer of lung to all cancer cases dealt with in the postmortem departments in 1924 was 10.30, as against 0.54 in 1895. At Zurich the cases of cancer of the lungs in 1925 were 11.54, as against 1.79 in 1911. Dr. Hoffman states that in ten years the cancer mortality in several large cities in America nearly doubled. Lane says: "It is obvious that the conditions are coincident with the appearance of the motor car and the use of tar and other constituents in the roads, and I believe we are faced with a new element which makes it all the more important that we should keep our bodies in perfect conditions of health. When I was a student the figures for cancer were nothing to what they are today. One has to insure that the community takes such dietary measures as will insure healthy body tissues and so avoid the development of conditions suitable for the growth of certain deleterious organisms. Cancer is a disease of civilization as we know it, and its comparative absence among the natives of certain parts of India, for example, is due to their more natural form of living. Proper bodily sanitation is essential, and that can only be achieved by natural modes of living. Observations over a long period made by medical men in the Punjab, for instance, show that cancer there is rare, whereas, when natives acquire the habits and foods of the white man, their incidence of cancer is equal to ours."

The British and French Birth Rates

In a previous letter (THE JOURNAL, February 25, p. 628) the lowest birth rate on record in this country, the terminal of many previously recorded lowest rates, was reported. It is startling to notice that our birth rate has now sunk below that of France, which country has long been regarded as the great example of birth restriction and of its result—a diminishing population. In 1926 the birth rate of France was 18.8 per thousand, but that of England and Wales was still lower, 17.8. However, we are not faced in this country with the problem of a diminishing population because we have a considerable advantage over France on the side of the death rate. In 1913 the infant mortality (deaths under 1 year per thousand births) was in France, 112; in England, 108. In 1926 the figures were above 80 in France, and were 70 in England.

The Centenary of the Glasgow Medical Journal

The *Glasgow Medical Journal*, which began its existence in February, 1828, has celebrated its centenary by the publication of a special number. Excepting the *Edinburgh Medical and Surgical Journal*, which appeared for the first time in 1805, the Glasgow journal is the oldest provincial medical journal in Great Britain. An illustrated sketch is given of the well known physicians and surgeons who occupied the editorial chair from the foundation to the present day. Sir Dawson Williams, late editor of the *British Medical Journal*, contributes an interesting account of the first medical journal that was published in this country. It appeared in 1684, under the title "Medicina Curiosa or A Variety of new Communications in Physick, Chirurgery, & Anatomy, from the Ingenious of many Parts of Europe & some other Parts of the World." He traces the beginnings of the modern newspaper to the dispatches of ambassadors, those of the Venetian Republic in particular, and the letters of great commercial firms received from their foreign agents. But this journal appears to have run only to two issues—June 17 and Oct. 23, 1684. Sir Squire Sprigge, editor of the *Lancet*, traces medical journalism from the earliest times. He states that in a sense it began 6,000 years ago, for at least one Babylonian tablet earlier than 4,000 B. C. reports a case of incurable dropsy. The first British medical newspaper, the *Foreign Medical Review*, appeared in 1780 and ran for some nine years, when it changed its title to *Medical Facts and Observations*. But the paper was not used by the medical profession as a channel of intelligence and the first real efforts of medical journalism began at the end of the eighteenth century. Another contributor and former editor of the *Glasgow Medical Journal*, Prof. T. K. Munro, traces medical journalism to the end of the thirteenth century, when Alderotti, who founded the school of Bologna, began to record clinical cases.

PARIS

(From Our Regular Correspondent)

Feb. 29, 1928.

The Demand for a Separate Ministry of Public Health

A ministry of public health was created for the first time, five years ago, under the Poincaré ministry, and its head was Senator Paul Strauss, member of the Academy of Medicine, well known for his interest in problems of hygiene and social welfare. He served for two years and introduced several reforms. But the ministry of M. Poincaré fell, and his successor, as an economy measure, combined in one department the ministries of public health and labor. Since the fusion, the ministry of labor has overshadowed the department of health. The public health services have become, during the past three years, disorganized, although M. Justin Godard has saved something of the former organization by creating the Office national d'hygiène. The bad effects of the disorganization can be observed. Before the Academy of Medicine, M. Marchoux of the Pasteur Institute stated recently that, in the total budgetary allowance for the ministry of labor, health and social welfare, the proportion allotted to public health is 3 million francs, while that of social assistance and public welfare is 300 million francs. The contrary relation would be more normal, for it is more valuable to prevent than to cure, especially in a country like France, in which the mortality, which is 17.5 per cent, exceeds by 5 per cent the average of other countries. This difference costs France 200,000 inhabitants each year; in other words, a city of the size of Bordeaux disappears. The Academy of Medicine demands a separate ministry of public health, a more just division of appropriations, and the constitution, in the central organization as well as in each department, of sanitary supervision of a technical sort and not, as at present,

of bureaucratic control; furthermore, that the organization shall be protected against political changes, so that, with each change of ministry, all the work that has been undertaken may not be overthrown and new and hazardous experiments tried. At the same session the academy adopted a resolution demanding that the various measures that it investigated and approved long ago be acted on. The list is long and suggestive: notification of contagious diseases, regulations pertaining to vaccinations, prolongation of the indemnified period of rest for puerperal women, the protection of children of preschool age, increase in the number of visiting nurses, compulsory medical inspection of primary schools, acceleration of plans for improving the sanitary condition of localities, demolition of unhealthful old buildings, improvements in supplies of drinking water for various communities, extension of tuberculosis prophylaxis, and many similar needs.

The Medicolegal Significance of Defects in Writing Occurring During Epileptic Seizures

Addressing the Société de neurologie, M. Souques presented some specimens of writing begun before epileptic seizure and continued during that state. A comparison reveals that the part written in a normal and lucid state is correct as to form and content, while the part written in an epileptic state is incorrect in both content and form. The defects in the writing appear suddenly, with no transitional phase, and affect the penmanship and the composition. As for the letters, the lines have become curved, the outlines have been enlarged, and the forms have been changed. As to the composition, it is a barbarous jargon or a strange, incoherent conglomeration of words and ideas. The defects of writing—due to automatism—are interesting from the psychologic point of view, since they give physical expression to the perturbations of the mind during the epileptic seizure, and fix on paper the nature and the degree of mental clouding associated with such seizures. For that reason they are of interest to legal medicine. Through them it may at times be possible to establish the existence of epilepsy in an accused person who might present as epileptic manifestations only rare and short seizures, which pass more or less unperceived.

Malta Fever of Bovine Origin

Malta, or undulant, fever is considered usually as being transmitted to man through the milk or fresh cheese of goats affected with the disease. It is beginning to be believed that it may be also of bovine origin, which would make its prophylaxis much more difficult. A number of cases have been reported from France and Italy (especially the latter) that seem to point to that origin. MM. Ledoux, Archer and Clerc (of Bezançon) have reported a case that appears conclusive.

The Basis of Therapeutic Physical Exercise

Dr. Boigey, a retired army physician, who established in the Ecole militaire de gymnastique located at Joinville a system of physical education based on scientific principles, is now director of therapeutic physical exercise at Vittel, a health resort much frequented by patients with gout, renal lithiasis and arteriosclerosis. Before the Academy of Medicine he recently summarized his observations. While a firm believer in the therapeutic value of physical exercise, he recognizes its limitations, and even its dangers, for the class of patients that he has been recently treating. He has reached the conclusion that physical exercise for these more elderly patients should not follow a uniform system but should be adapted to the strength of each patient and should be applied according to the indications in each case. Boigey referred to several untoward results from the nonobservance of these principles. Patients with marked sedentary habits, patients with latent or compensated heart disease, and patients in the fifties and sixties are not allowed to participate in physical exercises carried out in a recumbent position. Such exercises may have a congestive effect on the brain, and, while there is no reason why young persons may not take part in them, they are not always well adapted to persons past 40. The classes of persons just mentioned should take their exercise in an upright position, in the normal attitude in which man's daily tasks are commonly performed. For them the rowing machine and boating are the finest forms of exercise, since, while all the muscles are working, the body is in an upright position.

Orange Wine in French Oceania

A decree dated April 1, 1921, declared that, in derogation of the decree of Oct. 28, 1908, concerning the interdiction of the manufacture and sale of fermented beverages in French possessions of Oceania, the manufacture and sale of a sort of wine obtained from the fermentation of orange juice would be permitted in the colony. The indigenous inhabitants of the colony took advantage of the permission thus accorded them, and, owing to the extreme difficulty of exercising adequate control over the manufacture of their products, soon developed a beverage of high alcohol content, which causes rapidly a very dangerous form of intoxication. The abuses and the disorder to which the decree of April 1, 1921, has given rise have led the minister of the colonies to annul the decree.

Professor Jolly Chosen a Member of the Academy of Medicine

The Academy of Medicine has chosen Dr. Jolly, former pupil of Ranvier and Malassez and at present professor of histophysiology in the Collège de France, as a corporate member in the anatomy section, by reason of the vacancy caused by the death of Professor Prenant. Professor Jolly is an eminent histologist, whose works on the blood and the hematopoietic organs are well known. His laboratory at the Collège de France has always been easy of access for research workers seeking sound advice. Jolly is the author of a large number of communications to the learned societies; more particularly, to the Société de biologie. His chief work, the material for which he collected over a long period of years, is the Traité technique d'hématologie, which is widely known here and abroad.

BUENOS AIRES

(From Our Regular Correspondent)

Jan. 5, 1928.

Brazilian Medical Tour

At the suggestion of Prof. Nascimento Gurgel of Rio de Janeiro and under the auspices of the Rio Medical and Surgical Society, Academy of Medicine and other medical organizations, a medical "caravan," as its moving spirit called it, was organized by Brazilian physicians and allied professional people. Its final destination was to be Buenos Aires. After a short stay at Montevideo, the excursionists reached Buenos Aires on the S. S. *Itaumbé*, which they also used as a hotel during their visit. The local medical organizations as well as physicians in general and authorities united in offering the visitors a most cordial welcome. In addition to the usual banquets, lectures and excursions, visits were made to the chief clinics, hospitals, asylums and other institutions. Features of the occasion were a tribute to the late Dr. Oswaldo Cruz in the national health department and receptions by the president of Argentina and at the Academy of Medicine and the Argentine Medical Association headquarters. The whole enterprise proved a complete success.

On the very day of the return of the "caravan," its organizer and chief, Professor Gurgel, died suddenly from pulmonary edema. The news came as a shock and caused much regret among Argentinians.

Excessive Tax on Physicians Declared Illegal

The authorities of San Juan Province placed a tax of 5,000 pesos (about $4,800) on any physician who did not hold a public office or give free treatments for a few hours a day. The governor, a physician, had previously had a serious clash with the local medical society. The tax was generally resisted and virtually all medical organizations in the country protested against it, but the authorities refused to reconsider the matter. Under the circumstances, a few physicians even closed their offices or left the province. The subject was finally brought before the supreme court. A recent decision has declared such a tax unconstitutional.

Tribute to Dr. Cabred

The Academy of Medicine rendered recently remarkable homage to Professor Dr. Cabred. National and provincial authorities and medical schools and organizations, both national and foreign, were represented on this occasion. The president of the Academy of Medicine, Dr. M. Torino, the secretary of public education, Dr. Sagarna and a number of noted physicians brought out phases of Dr. Cabred's work in the foundation of hospitals for the insane, improved methods of treating mental cases, and work against alcoholism, leprosy and tuberculosis. Cabred was sick on the day the ceremonies took place, and his son read the speech of thanks. The president of Argentina went to Dr. Cabred's home to witness the presentation of a book bound in gold containing testimonials and tributes to Cabred's work.

Infant Mortality

While the general death rate has decreased to 15.1 per thousand for the whole country, infant mortality (under 1 year) has decreased variously in different parts of Argentina. It has been reduced to 123 per thousand births in Argentina as a whole and to 82 per thousand in Buenos Aires. However, provinces such as Jujuy and Salta still have rates as high as 211 and 230.

Exchange of Professors

At the invitation of the rector of the medical faculty of the University of Santiago de Chile, Prof. B. A. Houssay, the director of the physiologic institute, has given a series of lectures at Santiago, Concepción and Valparaiso on carbohydrate metabolism and its endocrine regulation and the rôle of epinephrine in the body.

New Professors

Dr. J. Iribarne has been appointed professor of clinical gynecology and Dr. C. Robertson Lavalle professor of pathologic surgery in the Buenos Aires medical school.

Dr. C. Viale, former professor of physiology at Sasoari, Italy, has been reengaged for five years as director of the Córdoba Physiological Institute.

Death of Güemes

Dr. Luis Güemes, foremost Argentine clinician, is dead. He was born at Salta, Feb. 6, 1856, and studied medicine first at Buenos Aires and then at Paris. He was appointed professor of clinical medicine at Buenos Aires and soon made a name for himself on account of his thoroughness in examination, mastery of semeiology, accuracy in diagnosis, psychologic insight and skill in treatment. He wrote little, but that little was excellent, as best shown by his essay on accuracy in medicine. Güemes was one of the first in demonstrating the syphilitic nature of most forms of aortitis.

BUDAPEST

(From Our Regular Correspondent)

March 1, 1928.

Is Organotherapy a Well Founded Therapeutic Method?

Dr. Károly Csépay, lecturer to Budapest University, is of the opinion that organotherapy has not fulfilled the expectations aroused by it. While thyroid tablets have an excellent influence on myxedema, in many other endocrine diseases organotherapy is inefficacious. Diabetes is not influenced by the administration of pancreatic substance; in Addison's disease the use of epinephrine is of little avail, in parathyroid tetany, parathyroid tablets are not successful, and, in the treatment of climacteric disturbances, ovarian preparations are of slight and even doubtful utility. It is not right to speak of organotherapy; the proper expression is hormone therapy. Hormone therapy is a well founded, reliable therapeutic method, but at present only hypothyroidism, diabetes mellitus and insipidus, and tetany respond to hormone therapy. Hormone therapy of the remaining endocrine diseases is only in an experimental stage and is not infrequently pure charlatanism.

What May Cause Sudden Blindness?

Dr. Andreas Licskó, lecturer to the University of Budapest, dealt in a recent lecture with all the causes which may lead to sudden blindness. He said that blindness occurring suddenly was only a symptom and that the basic disease must be sought for. A distinction is made between unilateral and bilateral blindness and between alternating, transitional and intermittent blindness. Among the causes of sudden bilateral blindness the most frequent is intoxication by alcohols; ethyl alcohol causes blindness least frequently. Much more dangerous are methyl alcohol and methylated spirit such as may occur in furniture polishes, because even the vapors of these may be intoxicating.

Of poisonous substances used in industry, lead may cause sudden but transitional amaurosis. Deterioration of the sight, developing slowly, in cases of chronic lead poisoning, is usually permanent. Arsenic and carbon monoxide poisoning may also involve sudden amaurosis.

Of medicinal preparations, quinine and ethylhydrocupreine may cause amaurosis, its occurrence being accompanied with a typical clinical and retinal picture.

Infectious diseases may cause sudden amaurosis, though very rarely. In acute nephritis and uremic eclampsia, sudden bilateral blindness may supervene. Usually it develops within from eight to twenty-four hours, and may at times be the cause of our attention being drawn to the presence of latent nephritis.

Injuries seldom cause bilateral blindness.

Patients struck by lightning have become blind instantaneously.

Cerebral hemorrhages are a very uncommon cause of bilateral blindness.

Of functional disturbances, scintillating scotoma and ophthalmic migraine may simulate sudden blindness.

Cerebral anemia in consequence of profuse bleeding may cause sudden temporary blindness.

Sudden unilateral deterioration of sight may be produced by conditions extending from the chiasma to the retina only.

An acute retrobulbar neuritis may cause sudden blindness. Such amauroses are usually of passing nature. In women, amenorrhea, uremia of pregnancy, and retrobulbar neuritis occurring during lactation may cause sudden blindness. Cerebral hemorrhages may often, and intracranial tumors seldom promote sudden unilateral blindness. Of injuries, the most frequent are the direct lesions of the optic nerve caused by stabbing, cutting tools, shots, explosions, basal fractures of the skull, and blunt contusions.

Of functional disturbances, hysteria may provoke sudden unilateral blindness, lasting for weeks and even years. It may be diagnosed from the examination of the fundus oculi, from the variability of the disease, first one eye being blind and then the other, from the concentric narrowing of the visual field, and from the suggestibility of the patient.

BELGIUM

(From Our Regular Correspondent)

Feb. 11, 1928.

Mutual Health Insurance Societies

There are two kinds of mutual health insurance societies: those organized by the workmen themselves, grouped together according to trades or according to political party, and those organized in the large factories and comprising the workmen and the personnel of those factories. On several occasions in the past, plans have been drawn up with a view of favoring one group of health insurance societies against the other, particularly in the proposed granting of government subsidies. It has been suggested that the right to such subsidies on the part of health insurance societies organized in factories should not be recognized. That is a mere detail to show the tendency of the struggle that has begun anew. This tendency is manifested to a marked degree in the new draft of a law proposed by an adherent of the mutualists so called. The bill would provide for the creation of a fund of 250 million francs a year, which would be collected through annual levies against industrial enterprises. Such levies are fixed at 2 per cent of all salaries and wages paid. The purpose of the fund is: (1) to subsidize the mutual societies to be recognized by the government, it being understood that the subsidies are to be used only for the benefit of salaried persons and wage-earners, together with members of their families; (2) to subsidize the mutual societies with a view to assuring special advantages to the wives of salaried men and wage-earners in the event of childbirth, and (3) to furnish cash benefits to puerperal women. This bill, according to the idea of its proponent, shall constitute the first step toward the organization of a general social insurance plan that will cover these four risks: sickness, invalidity, death and maternity.

The proposed legislation constitutes a renewed menace for the liberal profession of medicine; for the number of affiliated members will thereby be immensely increased. On the other hand, it is very evident that the number of persons to be drawn on in developing a free and independent clientele will decrease in the same proportion. The growth of the mutual societies since 1865 is impressive: In 1865, the total membership in the mutual societies was 27,888. In 1887, the number had increased to 60,000; in 1900, to 270,000, and, just before the war to 500,000, only 350,000 of whom were insured against permanent disability, or invalidity so called. In 1925, there were 800,000 members of recognized mutual health insurance societies. Since that date, the figure has increased still further, and now is largely in excess of a million. Under these conditions, the proposed law constitutes a grave menace for the medical profession; for the mutual societies—particularly of the political type—are likely to experience an astounding development, which cannot take place except at the expense of the free and independent clientele. Moreover, the bill makes no mention of two essential, and even vital, principles defended by the medical profession of Belgium: the absolute free choice of physician on the part of the patient, and payment for medical services on a fee basis. The bill, if it becomes a law, will tend to reduce the personal effort of the members of mutual societies, and, as a result, will weaken the financial and moral factors that help to put the practice of medicine among the members of mutual societies on the same basis as the practice of medicine in general. In fact, the bane of mutual societies lies in the abuses that have arisen owing to the decline of the true mutual spirit. The members of them have lost sight of the idea of rendering one another aid, and have come to consider solely the privileges and advantages purchasable by their contributions.

At the present time, it is admitted that all members of mutual societies are entitled, by virtue of the contribution to their society, to receive gratuitously medical care and the medicines needed. The result is that the societies develop overwhelming deficits in spite of the minimal fees paid to physicians. Dr. Dejace has just published a study showing that there is a vicious principle involved, and that many difficulties would be avoided if the members of the mutual societies were not guaranteed complete compensation for the cost of an illness or for loss of employment but received only a reasonably proportioned indemnity. If this method were followed, the societies could establish the budget system, which would be greatly to their advantage, and would at least diminish the unjust claims, if it did not suppress them entirely. Another good result would be that the medical care given to members of the mutual societies would be of the same quality as that given to the private patients of the physician.

Public Health Work in Belgium

Professional hygiene in Belgium is the work of the following organizations: (1) the central public health services, to which are attached an inspector of labor bearing the title of general director, five physicians (one a woman) serving as medical inspectors, a laboratory personnel for chemical and biologic researches, with a chemist as a technical adviser, for the use of all of whom a library of medicoprofessional literature is provided; (2) nine inspection districts [in Belgium] each provided with a medical inspector of labor, who manages in his district the public health service. This service assumes the following duties: (1) the protection of the pregnant worker and the nurse; (2) the medical examination of oncoming apprentices and advice in choosing their trade; (3) study of the physiology and pathology of labor in all their forms; (4) communication of the results of these observations to all sanitary institutions; (5) study of the most useful prophylactic measures to be adopted, with the purpose of improving the health conditions of workers in all spheres of labor, and (6) supervision of the execution of legal orders concerning public health. In place of annual reports, the medical department of the public health service publishes a "Bulletin du service médical du travail," which contains not only Belgian laws and ordinances but also original articles and reviews of foreign books. There is a general laboratory of the central health service and also a psychophysiologic laboratory.

Hygienic Establishments on the Congo

The Union minière du Katanga has decided to establish a bacteriologic institute at Elisabethville. Dr. Brutsaert will be placed in charge of it.

The Société Formulac has made arrangements with the Pères Blancs to establish a hospital at Lac Kivu, near Katanga, with all the necessary annexes, to which will be added a mountain-air sanatorium.

School Medical Inspection at Ghent

In the *Médecine scolaire*, Van Eckaute gives a résumé of the organization of the school sanitary service of the city of Ghent. The inspection comprises: (1) examination of the pupil on admission to the school and a reexamination each school year; likewise the creation and the bringing up to date of the medical card and the sanitary record-book of all the children subject to the regulations governing primary education; (2) a collective examination of the pupils once a month; (3) a general inspection, each semester, of the school buildings, their equipment, and the surroundings, and (4) the

prophylaxis of transmissible diseases, including the vaccination service for pupils. The schools are divided into nine districts each comprising about 1,300 pupils. In each district, the medical supervision is in charge of a medical inspector.

The medical personnel is composed of: (1) a medical director; (2) nine medical inspectors; (3) six medical specialists (aurist, oculist, dermatologist, psychologist, and two dentists). The medical inspectors meet at least every three months under the chairmanship of the director, to whom they submit suggestions for the betterment of the service. The results of their deliberations are presented, if need be, to the council on school hygiene, which is composed of the members of the board of public instruction and hygiene, the director of the bureau of hygiene, the director of the school sanitary service, the medical consultant attached to the bureau of public instruction, the medical inspectors, and the school architect. All matters pertaining to school construction and to the administrative management of school buildings are submitted to this council.

BERLIN

(From Our Regular Correspondent)

March 3, 1928.

Health Conditions in Bavaria in 1927

General health conditions in Bavaria are improving and the country has recovered to a certain extent from the bad effects of the war and postwar periods. The birth rate, however, is still declining. In 1926, the rate was 22.1 per thousand population, as compared with 28.7 in 1914. The decrease in births affects the cities more, but it is beginning to affect in increasing measure the rural districts as well. The general mortality is decreasing but not to the same extent that it has been in recent years. In 1906, the general mortality was 21.4; in 1926, 13.5 per thousand population. The decrease in the general mortality is due mainly to the decrease in infant mortality. In 1926, the infant mortality was 13.3 per hundred births as against 22.7 in 1906. The mortality in the rural sections (14.6) is much higher than in the cities (9.8). The decrease in the general mortality is the chief explanation for the fact that the excess of births over deaths in Bavaria is still comparatively favorable. In 1926, it was 8.6 per thousand population. The nutritional conditions and the general health conditions among young children and school children have improved, in recent years, also in the cities, especially as the result of the school lunches provided, together with other measures. However, in certain districts a considerable number of undernourished children may be observed. The mortality from pulmonary tuberculosis was somewhat lower in 1926 than in the previous years. In 1926, the total number of deaths from tuberculosis was 7,303. As may be seen from the reports of the health officers and the care-taking centers—especially in the cities, there has been no decrease in tuberculosis morbidity, and the number of new cases developing (particularly among children) is still great. According to statements issued by the care-taking center for patients with lung diseases in Nuremberg, the number of discovered infectious cases of tuberculosis has increased from 1,278 to 1,376 (a 7.7 per cent increase). The bad housing situation makes the crusade against tuberculosis a more difficult problem than it would otherwise be. The mortality from cancer shows a constant trend upward. In 1926, 9,291 persons died of cancer —more than from tuberculosis. Concerning the spread of venereal diseases, the reports are favorable, in the main. Above all, there has been a decrease of syphilis. There has been some increase of alcoholism. The number of persons admitted to hospitals and psychopathic institutions because of alcoholism is increasing from year to year. The transmissible diseases showed a low incidence in 1926. There have been no serious outbreaks of typhoid. Infantile paralysis showed some increase in northern Bavaria, but it would be inaccurate to speak of an epidemic. The outbreak did not assume in Bavaria the serious proportions that it did in Leipzig.

Medical Films

As in previous years, the Medizinische Fachbuchhandlung F. C. Behre (the past winter, in cooperation with the Hamburger Film-Archiv) organized a series of presentations of medical films, which are of value to the medical practitioner as well as to the medical student. In the second film of the series, which was presented in the auditorium of the institute for applied botany, Professor Bickel of the pathologic institute of the University of Berlin reported the outcome of his researches on the influence of foods and beverages on gastric secretion. The film illustrates a chapter in experimental dietetics, and gives at the same time an insight into the methods employed in such researches. Professor Bickel's diet chart is based particularly on the secretory function, and provides dietetic treatment for its disturbances. These problems were taken up after Pavlov had introduced a suitable experimental method.

The first part of the film prepared by Bickel presents cinematographic views of the operation and the surgical technic employed in establishing a Pavlov gastric culdesac in the dog, while the second part shows how the experiments on the secretory effect of a given food are carried out, and gives the curve depicting the results. The third part gives the secretion curves of the most important foods and beverages, so that the whole problem could be explained in all its details and be given graphic representation through the film.

Permanent Ship Physicians

Whereas, in the past, physicians on German ships have usually been engaged only for short periods, the Hamburg-America Line has now adopted the policy of maintaining for service on its large passenger steamers a permanent group of adequately paid ship physicians specially trained for such service. A system of leaves of absence will enable the occupants of these posts to obtain any postgraduate training that the service may require. The physicians selected will be examined carefully and only those who appear particularly adapted will be chosen and retained in the service. The innovation will inure to the benefit of the steamship company, the physicians themselves, and especially of the passengers. Improvements will also be made in the provision of medical aids and equipment. The ship's hospital will be adapted to an increasing extent to modern demands. Modern apparatus and modern instruments will be supplied. The ship pharmacies of the large steamers will carry a stock of medicaments and cosmetics far in excess of the legal demands. On some of the largest passenger ships, roentgen-ray apparatus is also beginning to be introduced.

Marriages

Clifford A. Dickey to Miss Joan Dolores Stevenson, both of Portland, Ore., March 10.

Rupert Franklin Carter to Miss Lucille A. Candidus, both of New York, April 5.

Theodore A. Strang to Dr. Pearl M. Sampson, both of Los Angeles, March 9.

Joseph P. Holt, Versailles, Ky., to Miss Nettie Harris, February 18.

Henry Blum to Miss Frieda Halpern, both of New York, March 20.

Ethan Allen Gray to Miss Bessie Webb, both of Chicago, March 28.

Deaths

Sanger Brown ⊕ Kenilworth, Ill.; Bellevue Hospital Medical College, New York, 1880; member of the American Climatological and Clinical Association, the American Neurological Association and the American Psychiatric Association; formerly professor of medical jurisprudence and hygiene, Rush Medical College, Chicago; at one time associate professor of medicine and clinical medicine and professor of clinical neurology, College of Physicians and Surgeons [College of Medicine of the University of Illinois], Chicago; assistant physician to the Hospital for Insane, Ward's Island, N. Y., 1880-1881, Danvers (Mass.) State Hospital for Insane, 1881, and the Bloomingdale Asylum, White Plains, N. Y., 1882-1885, acting medical superintendent in 1886; with Prof. E. A. Schafer, at the University College of London, conducted in 1886-1887 experiments on monkeys which afforded first conclusive proof that in those animals the center for vision is in the occipital lobe; proprietor and medical director of the Kenilworth Sanitarium; aged 76; died, April 1, at the Presbyterian Hospital, Chicago, of acute dilatation of the stomach, following a prostatectomy.

Robert Abbe, New York; Medical Department of Columbia College, New York, 1874; member of the Medical Society of the State of New York, American Surgical Association and the American Radium Society; at one time associate in clinical surgery at his alma mater; professor of surgery, Woman's Medical College, 1878-1880, and the New York Post-Graduate Medical School, 1889-1897; formerly on the staffs of the Woman's Hospital, St. Luke's Hospital, Babies' Hospital, Roosevelt Hospital, New York Cancer Hospital, and the Hospital for Ruptured and Crippled; aged 76; died, March 7, of Paget's disease.

Charles Warren Selah Frost, Waterbury, Conn.; Medical Department of Columbia College, New York, 1880; member of the Connecticut State Medical Society; at one time city health officer, member of the board of health and president; formerly on the staff of the Waterbury Hospital; aged 70; was found dead, February 3, of heart disease.

William Eugene Chamberlain, Rutland, Mass.; University of Vermont College of Medicine, Burlington, 1883; member of the Massachusetts Medical Society; chairman of the Rutland Board of Health; formerly on the staff of the Prison Camp and Hospital, West Rutland; aged 67; died, March 9, at the Holden (Mass.) Hospital.

Edouard Michel Dupaquier, New Orleans; University of Paris, France, 1885; member of the Louisiana State Medical Society; at one time professor of contagious diseases, New York Polyclinic Graduate School of Medicine; formerly on the staff of the Charity Hospital; aged 69; died, March 13, of a self-inflicted bullet wound.

Shaler Berry, Newport, Ky.; Medical College of Ohio, Cincinnati, 1900; member of the Kentucky State Medical Association; also a lawyer; at one time lecturer of medical jurisprudence and economics at his alma mater; served during the World War; formerly member of the state legislature; aged 58; died, March 1.

Ora Carlton Strickler, New Ulm, Minn.; University of Michigan Medical School, Ann Arbor, 1885; formerly member of the board of regents of the University of Minnesota, Minneapolis; past president of the state board of medical examiners; aged 65; died, March 12, of cerebral hemorrhage.

Gerald Aloysius Kelly, Jessup, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1922; member of the Medical Society of the State of Pennsylvania; formerly on the staff of the Misericordia Hospital, Philadelphia; aged 33; was shot and killed, March 14, by a former patient.

Thomas F. Marland, Chicago; Chicago College of Medicine and Surgery, 1917; member of the Illinois State Medical Society; served during the World War; on the staff of the West Suburban Hospital, Oak Park; aged 39; died, March 12, of bronchopneumonia and acute miliary tuberculosis.

Edward Rickey Bradley, Los Angeles; University of Southern California College of Medicine, Los Angeles, 1888; Bellevue Hospital Medical College, New York, 1889; for ten years on the staff of the Los Angeles Orphans' Home; aged 63; died, March 13, of bronchopneumonia.

Milton Ash McQuade ⊕ Newburgh, N. Y.; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1904; on the staffs of St. Luke's Hospital, Newburgh, the Highland and Matteawan hospitals, Beacon; aged 50; died, March 12, at St. Luke's Hospital, of cerebral hemorrhage.

Robert Case Beebe, Shanghai, China; Western Reserve University School of Medicine, Cleveland, 1879; for many years a medical missionary; for three years president of the China Medical Association; aged 72; died, March 14, at Clifton Springs, N. Y., of bronchopneumonia.

Thomas Madison Morgan, Eldorado, Ark.; College of Physicians and Surgeons, Little Rock, 1910; member of the Arkansas Medical Society; health officer of Eldorado; aged 43; was found dead in his automobile, March 7, of a bullet wound, presumably self-inflicted.

William Albert Dunn, Newberry, S. C.; Louisville (Ky.) Medical College, 1892; member of the South Carolina Medical Association; aged 63; died, March 2, at the Newberry County Hospital, of injuries received when the automobile in which he was driving was struck by a train.

Albert Francis Mulvanity ⊕ Nashua, N. H.; Georgetown University School of Medicine, Washington, D. C., 1906; served during the World War; aged 44; formerly on the staffs of the Nashua Hospital and St. Joseph's Hospital, where he died, March 6, of carcinoma.

Phillip Patrick Burton, New Hartford, Mo.; St. Louis College of Physicians and Surgeons, 1890; member of the Missouri State Medical Association; president of the Pike County Medical Society; aged 60; died, March 10, of pneumonia, following influenza.

John Harry Evans, Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1902; served during the World War; two years ago received a decoration for service with the Near East Relief; aged 50; died, March 13, of myocarditis.

Meyer Frankel, New York; University and Bellevue Hospital Medical College, New York, 1899; member of the Medical Society of the State of New York; for fifteen years member of the board of education; aged 57; died, March 14, of diabetes and uremia.

Millard Leiter Raemore ⊕ Williamsport, Pa.; College of Physicians and Surgeons, Baltimore, 1915; served during the World War; on the staff of the Williamsport Hospital; aged 38; was found dead in his home, March 12, from the effects of gas.

Horace Hutchins Le Seur ⊕ Batavia, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1913; served during the World War; formerly on the staff of St. Jerome's Hospital; aged 39; died, March 2, of ulcerative endocarditis.

Frank Warren Horton, Sanborn, Iowa; State University of Iowa College of Homeopathic Medicine, Iowa City, 1894; member of the Iowa State Medical Society; formerly member and president of the board of education; aged 57; died, March 3.

John F. George, Fort Jennings, Ohio; Fort Wayne (Ind.) College of Medicine, 1892; member of the Ohio State Medical Association; aged 60; died, March 9, as the result of injuries received in an automobile accident several months ago.

Emile Bonniwell Quillen, Rocky Mount, N. C.; University of Maryland School of Medicine, Baltimore, 1904; member of the Medical Society of the State of North Carolina; aged 46; died, March 7, at a local hospital, of pneumonia.

Peter C. Davison ⊕ Willmar, Minn.; Medical Department Hamline University, Minneapolis, 1904; formerly medical director of a hospital bearing his name; aged 55; died, March 3, at Fort Meyers, Fla., of carcinoma of the stomach.

Nicholas Gay O. Coad, San Diego, Calif.; University of Vermont College of Medicine, Burlington, 1887; formerly a practitioner in Iowa; aged 76; died, February 29, of carcinoma of the pelvis and hypostatic pneumonia.

Robert Milton Recobs, Tipton, Ind.; University of Louisville (Ky.) School of Medicine, 1893; member of the Indiana State Medical Association; served during the World War; aged 62; died, March 7, of pneumonia.

Frederick William Kennedy, Andover, Mass.; Harvard University Medical School, Boston, 1883; aged 70; died, March 3, at the Shawsheen Hospital, of uremia, hypertrophy of the prostate and arteriosclerosis.

William Josephus Hatchett, Somerville, Mass.; Bellevue Hospital Medical College, New York, 1887; member of the Massachusetts Medical Society; aged 72; died, March 6, of chronic nephritis with uremia.

⊕ Indicates "Fellow" of the American Medical Association.

Irwin Coleman Sutton, Jr. ✦ Los Angeles; College of Physicians and Surgeons, Medical Department of the University of Southern California, Los Angeles, 1919; aged 31; died, January 25, of cyanide poisoning.

Henry Parke, Paterson, N. J.; Medical Department of Columbia College, New York, 1882; member of the Medical Society of New Jersey; aged 76; died, March 11, of carcinoma of the esophagus.

Converse Conrade Cone, Oskaloosa, Iowa; College of Physicians and Surgeons, Chicago, 1887; member of the Iowa State Medical Society; aged 68; died, March 7, as the result of a cerebral hemorrhage.

Henry Halsey Battey, Rome, Ga.; Harvard University Medical School, Boston, 1879; member of the Medical Association of Georgia; aged 70; died suddenly, March 11, of cerebral hemorrhage.

Joseph Mackey Corson, Hughesville, Pa.; Jefferson Medical College of Philadelphia, 1892; member of the Medical Society of the State of Pennsylvania; aged 59; died, March 2, of cerebral hemorrhage.

William Emory Reed ✦ Washingtonville, N. Y.; New York Homeopathic Medical College, 1884; aged 71; died, March 3, at St. Luke's Hospital, Newburgh, of injuries received in an automobile accident.

Amelia Weed Gilmore, Auburn, N. Y.; Woman's Medical College of Pennsylvania, Philadelphia, 1888; formerly on the staff of the Auburn City Hospital; aged 85; died, March 5, of arteriosclerosis.

Charles Augustus Burton Peterson, New Bedford, Mass.; Long Island College Hospital, Brooklyn, 1886; member of the Massachusetts Medical Society; aged 72; died, March 9, of arteriosclerosis.

J. W. Wessinger, Ballentine, S. C.; Medical College of the State of South Carolina, 1897; member of the South Carolina Medical Association; aged 57; died, March 6, of nephritis and heart disease.

Robert B. Lemon, Norris City, Ill.; Medical College of Evansville, Ind., 1878; Civil War veteran; formerly a druggist, postmaster and a member of the school board; aged 83; died, February 26.

William Jackson Chapman, Inman, S. C.; Atlanta (Ga.) Medical College, 1879; member of the South Carolina Medical Association; aged 73; died, March 1, of arteriosclerosis and chronic nephritis.

Edward E. Burwell, Freeport, Ill.; State University of Iowa College of Medicine, Iowa City, 1885; formerly city health officer; aged 66; died, March 3, of chronic nephritis and hemiplegia.

Wellcome Herbert Adams ✦ Jacksonville, Fla.; Medical Department of the University of the City of New York, 1889; aged 61; died recently, of septicemia, following a pin prick of the thumb.

James Joseph McCarty, Chicago; Harvard University Medical School, Boston, 1878; member of the Massachusetts Medical Society; aged 71; died, March 18, of carcinoma of the sigmoid.

Otis Charles Michie, Dallas, Texas; University of Texas School of Medicine, Galveston, 1917; member of the State Medical Association of Texas; aged 39; died, March 8, of pneumonia.

Horace Leedom Carncross, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1895; served during the World War; aged 57; died, March 4, of heart disease.

Louis N. Parish, Harrisburg, Ill.; University of Louisville (Ky). School of Medicine, 1887; member of the Illinois State Medical Society; aged 69; died, March 7, of cerebral hemorrhage.

John Richard Moore, Clifton, Tenn.; University of Tennessee College of Medicine, Memphis, 1901; member of the Tennessee State Medical Association; aged 55; died, January 11.

Warren Herbert Johnston, Philadelphia; Jefferson Medical College of Philadelphia, 1913; ship surgeon to the liner *American Shipper;* aged 36; died, February 7, while at sea.

Charles Franklin Rigg ✦ Spokane, Wash.; Eclectic Medical College of Indiana, Indianapolis, 1908; aged 46; died suddenly, February 22, of coronary thrombosis and angina pectoris.

Michael Paul O'Malley, Watertown, Wis.; Rush Medical College, Chicago, 1888; aged 68; died, March 2, at St. Joseph's Hospital, Milwaukee, of carcinoma of the prostate.

Wayne Pryse, Beattyville, Ky.; Hospital College of Medicine, Louisville, 1905; Kentucky University Medical Department, Louisville, 1906; aged 45; died, February 12.

James R. Crutcher, Henning, Tenn.; Vanderbilt University School of Medicine, Nashville, 1882; aged 70; died, February 27, while visiting his son in Honolulu, Hawaii.

Joseph Maurice Phelan, Brooklyn; Eclectic Medical College of the City of New York, 1907; aged 52; died, March 10, at St. Catherine's Hospital, of bronchopneumonia.

John Milton Fassig ✦ Zanesville, Ohio; Starling Medical College, Columbus, 1883; member of the Radiological Society of North America; aged 66; died, February 11.

Norman F. Hoffman, Milwaukee; Wisconsin College of Physicians and Surgeons, Milwaukee, 1896; aged 57; died, February 29, of acute tuberculous pneumonia.

Peter P. Duket, Chicago; Hahnemann Medical College and Hospital, Chicago, 1893; aged 62; died, March 13, of peritonitis, following gangrenous appendicitis.

Robert Franklin Hardesty, Baltimore; University of Maryland School of Medicine, Baltimore, 1894; aged 66; died, March 18, of carcinoma of the stomach.

Charles Dashiel Roberts, Cedar Hill, Texas; University of Louisville (Ky.) School of Medicine, 1886; aged 64; died, February 2, in a hospital at Dallas.

Nathan A. Rinebold, Athens, Pa.; College of Physicians and Surgeons, Baltimore, 1892; aged 70; died suddenly, March 3, of heart disease.

William R. Baker, Detroit; University of Western Ontario Medical School, London, Ont., Canada, 1899; aged 70; was shot and killed, March 5.

Chester Lee Cass, Toledo, Ohio; Toledo Medical College, 1897; aged 79; died, March 6, of diabetes mellitus and cerebral arteriosclerosis.

Rita Biansia Church, Elmira, N. Y.; Woman's Medical College of Pennsylvania, Philadelphia, 1874; aged 87; died, February 21, of cystitis.

William Edward Coates, Kaleva, Mich.; College of Physicians and Surgeons, Chicago, 1895; aged 57; died, March 15, of lobar pneumonia.

Robert Emmett Corley, Augusta, Ga.; University of Georgia Medical Department, Augusta, 1908; aged 54; died, February 9, at Atlanta.

John Valentine Handwerker, Memphis, Tenn. (licensed, Tennessee, 1889); aged 84; died, March 13, of uremia and chronic nephritis.

Everett M. Shipman, Robinson, Ill.; Hospital College of Medicine, Louisville, 1900; aged 53; died, March 3, of paralysis of the throat.

Alexander Davison, Camden, Ark.; Memphis (Tenn.) Hospital Medical College, 1900; aged 71; died suddenly, March 7, of heart disease.

Jay Tyrrell Hennessy, Baltimore; University of Maryland School of Medicine, Baltimore, 1916; aged 37; died, March 17, of heart disease.

Edward Percival Heliker, Seattle; Long Island College Hospital, Brooklyn, 1890; aged 62; died, February 10, of heart disease.

George M. Thom, Keenesburg, Colo. (licensed, Colorado, 1900); aged 77; died, February 12, at Los Angeles, of sarcomatosis.

William P. Harter, Anderson, Ind. (licensed, Indiana, 1897); aged 84; died suddenly, March 14, of cerebral hemorrhage.

Thomas Matthew Barry, Lynn, Mass.; Tufts College Medical School, Boston, 1915; aged 35; died, March 11, of lobar pneumonia.

David S. Moyer, Donaldson, Pa.; Jefferson Medical College of Philadelphia, 1878; aged 75; died, March 8, of nephritis.

Duncan Murray, Pictou, N. S., Canada; Dalhousie University Faculty of Medicine, Halifax, 1896; died, Dec. 21, 1927.

Arthur M. Derome, Montreal, Que., Canada; University of Montreal Faculty of Medicine, 1899; aged 52; died recently.

Thomas J. Savage, Xenia, Ohio; Cincinnati College of Medicine and Surgery, 1877; aged 73; died, February 19.

Levi S. Munsell ✦ Beaver, Okla.; Starling Medical College, Columbus, Ohio, 1870; aged 86; died, February 5.

James D. Estes, Cascade, Va. (nongraduate); Civil War veteran; aged 91; died, January 30.

Bureau of Investigation

THE WRIGHT TUBERCULOSIS TREATMENT

Water, Glycerin and Caramel Sold as a Cure for Consumption

About a year ago a physician in Corinth, Mississippi, wrote:

"Within the last month a Mrs. Carrie Wright, who formerly lived at 4311 North Robey Street, Chicago, Illinois, has settled here; she has declared her intentions of opening a sanitarium here for treating tuberculosis. She claims she has been treating such cases for the past fifteen years. I would appreciate any information you can give me concerning this woman and her treatments, etc."

Investigation showed that Mrs. Wright was in the "consumption cure" business at Corinth under the names "Wright Tuberculosis Healthtorium" and "Carrie Wright T. B. Foundation." Further investigation indicated that Carrie Wright was the wife of one Charles O. Wright, who had been engaged in "consumption cure" quackery for many years. Charles O. Wright received a diploma from the College of Medicine and Surgery, University of Minnesota, in 1890. The nostrum was sold under various trade names: "The Dr. C. O. Wright Company," "Wright Ricks Drug Company," "Wright-Duering Antitoxine Company," "Wright Chemical Company," and probably others. At one time the treatment seems to have been known as "Tubercular Antitoxine" and, apparently, was the same product that was later put out as "Wrightserum (Bacterin)" by the so-called Busch Institute of Scientific Research, St. Louis.

The only available description of the alleged treatment seems to be that given in circulars sent out in 1913, which stated that the stuff was "produced from bacteria found in tubercle on the roots of leguminous plants." The "Wrightserum" seems to have had an accessory—an alleged "lung remedy" sold under the proprietary name "Creopan."

No analysis ever seems to have been made of Wright's "treatment" although Wright's quackish activities seem to have got him into many difficulties. In 1909, the St. Louis newspapers reported that Wright had been arrested on an indictment charging him with obtaining money under false pretenses from a patient. The patient was said to have claimed that he deposited $250, which was not to go to Wright until the patient was cured. The money, however, was said to have been taken and the suit was brought to recover it, as the patient claimed that he was getting worse instead of better. Some years ago the Assistant Health Commissioner of St. Louis notified THE JOURNAL that Wright had been convicted several times of practicing medicine without a license and had been assessed fines ranging from $100 to $350. Later, C. O. Wright seems to have moved from St. Louis to Chicago, where he operated from 4311 North Robey Street.

On April 11, 1927, Dr. W. W. McRae of Corinth furnished us with an original, unopened bottle of the "Wright Tuberculosis Treatment," which was turned over to the A. M. A. Chemical Laboratory. At the same time a specimen of "Wright's Tubercular Remedy" was also turned over to the A. M. A. chemists. The first specimen declared on the label that it came from the Carrie Wright T. B. Foundation, Corinth, Mississippi, while the second specimen was from the Carrie Wright Foundation, 4311 North Robey Street, Chicago. The Laboratory reports follow:

LABORATORY REPORT

"SPECIMEN I.—One original bottle of the 'Wright Tuberculosis Treatment' (the Carrie Wright T. B. Foundation, Corinth, Miss.) was submitted to the A. M. A. Chemical Laboratory for examination. The bottle contained 14 cc. (approximately one-half a fluidounce) of a reddish brown liquid, possessing an odor slightly suggestive of pine oil. No statement as to the composition was found on the label. Qualitative tests indicated the presence of sodium, glycerin and coloring material resembling caramel. No heavy metals, arsenic (even a minute quantity) halides, phosphate or alkaloids were found. Tests for volatile and fixed oils were negative. The ash on ignition was 0.3 per cent. The total solids amounted to 28.3 per cent, consisting essentially of a relatively large amount of glycerin and caramel.

"From the results of the tests, it appears that the Wright Tuberculosis Treatment is essentially a water-glycerin solution to which caramel has been added."

"SPECIMEN II.—Submitted at the same time as the specimen of Wright's Tubercular Treatment was a specimen labeled 'Wright's Tubercular Remedy' (Carrie Wright Foundation, Distributors, 4311 N. Robey Street. From the general characteristics, it appeared that the product was of the same composition as the substance reported above. From the qualitative tests performed, it appears to be identical with the foregoing specimen."

In July, 1927, we received a letter from Dr. Henry Boswell, superintendent and director of the Bureau of Tuberculosis of the Mississippi State Sanatorium, stating that he had recently interviewed Mrs. Carrie Wright, who assured him that she was going to leave Mississippi and move her business to Colorado. Since that time we have heard nothing of Mrs. Wright or her mixture of water, glycerin and burnt sugar.

EPILEPSON

Another Piece of Mail-Order Quackery

"Epilepson," described in the advertising as an "amazing discovery" which "stops epileptic attacks at once," has been put on the market by the Epilepson Company, Inc., of Brooklyn, New York. Later the name of the concern seems to have been changed from the Epilepson Company, Inc., of Brooklyn to the Remedy Products, Inc., of New York City.

As part of its advertising "come-on" the Epilepson Company published a four-page broadside—"Epilepson News"—prepared in the form of a newspaper. In it "Nostrums and Quackery," published by the American Medical Association,

EPILEPSY STOPPED
Amazing discovery Stops Epileptic attacks at once. NO BROMIDES. NO LIQUID MEDICINE. Results guaranteed. Write for Free Plan. EPILEPSON CO., Station K, Box 6, New York, Dept. 168.

was freely quoted as were also various articles published in THE JOURNAL exposing fake epilepsy cures of the bromide type.

The theme played on by the Epilepson concern was to the effect that the bromide treatment of epilepsy was harmful and that bromides did more damage than good. Articles that have appeared in medical literature dealing with the value of phenobarbital (luminal) in the treatment of epilepsy have been quoted and paraphrased. Nowhere, however, was phenobarbital (luminal) mentioned by name. The product was described as the "New Remedy" for epilepsy. In view of this method of exploitation, it was not hard to guess that Epilepson would be found to be phenobarbital. A specimen turned over to the A. M. A. Chemical Laboratory for identification as a member of either the bromide or the phenobarbital group of epilepsy remedies, brought out the fact that Epilepson is essentially phenobarbital (luminal).

The Dawn of Medicine.—Man's first interest in disease undoubtedly arose from a desire for relief. When he became conscious of an unusual physical state, usually evidenced by discomfort or "dis-ease," he ascribed it to some supernatural agency and appealed to the gods for relief. Later he found by chance that through the employment of certain physical agents pain might be relieved, especially when the abnormal state was the result of some obvious external agency. The priests, who were the intermediaries with the gods in relieving the mysterious ailments, also became the healers who applied the less mysterious remedies. Thus originated the healers or physicians, and from the earliest times to the present physicians have been the custodians of knowledge concerning disease. But physicians have been employed by the sick to heal them, and the physicians therefore could not be entirely disinterested seekers after truth. Under these circumstances, it would not have been remarkable if any seeking for knowledge which physicians undertook should always have been directed to a search for cure.—Cole, Rufus: *Science* **67**:48 (Jan. 20) 1928.

Correspondence

A PROGRAM FOR IMMUNIZATION

To the Editor:—I have read in The Journal (January 7, p. 51, and January 28, p. 311) the questions and the answers concerning a program for immunization. This program, especially as it concerns the immunization of nurses and children, has been simplified during these last years in France by the use of the method of associated vaccinations. This method consists of the injection of mixtures of two anatoxins (against diphtheria or tetanus, or streptoscarlet fever) or else mixtures of typhoid vaccine T A B and anatoxin (especially against diphtheria or tetanus).

A very interesting and surely established fact is that by means of the association in a mixture of typhoid vaccine and anatoxin, against diphtheria, for example, the antitoxic immunity produced by the anatoxin is strongly increased.

Many physicians who have already used this method (Dr. Loiseau, Dr. Lafaille and others) obtain 100 per cent of negative Schick reactions among the nurses and soldiers (after three injections). These results are, or will be soon, published. Articles previously published with Dr. Zœller establish the method of "associated vaccinations" (Ramon, G., and Zœller, C.: Les "vaccins associés" par union d'une anatoxine et d'un vaccin microbien [T A B] ou par mélangés d'anatoxines, *Compt. rend. Soc. de biol.* **94**:106 [Jan. 16] 1926. Zœller, C., and Ramon, G.: Les vaccinations par "vaccins associés," *Paris méd.* **1**:539 [June 5] 1926).

G. Ramon, Institut Pasteur, Paris.

THE FALL OF ANATOMIC KNOWLEDGE

To the Editor:—Does the present graduating medical student have a proper knowledge of human anatomy? The results of a recent examination at the Cook County Hospital would suggest that he has not.

The following question was asked in orthopedics: "Radius was fractured two years ago. Patient comes now with malunion, pronation; there is synostosis with ulna. He desires supination. The fracture was above the insertion of the pronator teres. Give origin and insertion of five muscles which would influence both distal and proximal fragments, and explain their respective pulls."

While the examiners of the papers do not give the questions, they considered the furnishing of the anatomic data requested as the proper answer to the question. This interpretation was shared in by practically all the applicants, as evidenced by the character of their answers. It thus resolved itself into a question of pure anatomy with a preference for certain muscles, but even remote action of muscles being allowable.

But the difficulty was to give the origin, insertion and action of five muscles of that region. The results were as follows: eight zeros; thirty-one scoring from 5 to 20; sixty-five scoring from 25 to 40; fifty-four scoring from 45 to 65; thirty-one scoring 70 and over. Thus, 156 out of 187 scored less than 70. It is refreshing to note that seven scored 90 and four scored 95. The average score was a little over 42.

Now these were not practitioners whose technical anatomy had become rusty but were mostly the choicer students from our local university schools specially trained to take this examination.

Technical anatomy is no longer a regular topic in these examinations, and the applicants apparently do not refresh themselves in this fundamental subject in preparation for the examination.

If these students may be taken as a fair sample of the whole lot, although it is commonly considered that they represent the pick of the student body, what must be the training of the less favored ones? We shudder to answer. Yet all teachers in the applied branches are thoroughly and painfully aware of just this lack of specific knowledge of human anatomy in the average senior student or young graduate of today.

The examination at the County Hospital only served to emphasize this serious lack of anatomic training so prevalent in these, our highest type of medical students. The students recognize this and deplore it. Perhaps there are compensations in that more time can be saved for more interesting and up-to-date, though often less stable, subjects in a crowded curriculum.

It is not our intention to decry the present methods of teaching anatomy, but the examination at the County Hospital evidently suggests something.

Charles A. Parker, M.D.
Frederick Cleveland Test, M.D.
P. H. Kreuscher, M.D., Examiners,
Chicago.

"INSULIN EDEMA"

To the Editor:—It is with a good deal of regret that I note a case of "insulin edema" reported by Dr. Aaron Leifer (The Journal, February 25, p. 610). This case is so obviously one of edema due to under-nutrition with no relation to insulin and was of such common occurrence in preinsulin days that I am surprised that Dr. Leifer has not recognized the nature of the condition. More important than this, however, is the fact that all communications reflecting even indirectly on the use of insulin are not good for the success of insulin treatment and make it even more difficult to overcome certain ignorant lay and medical prejudices against the use of this valuable remedy.

H. Rawle Geyelin, M.D., New York.

"TREATMENT OF TABES BY EPIDURAL INJECTIONS OF NEOARSPHENAMINE"

To the Editor:—In The Journal, February 25, under this title, Hassin reports a favorable influence on ataxia girdle pains, and lightning pains enabling a hitherto bedridden patient to walk.

In the course of some years of experiment with the simple epidural injection (nonmedicinal) I have tried out many conditions of lower body segment pain, generally with good results. Among these patients have been a number with tabes, practically all of whom have benefited by this method without the use of arsenicals. I have had relief in two cases for respectively one and two years. Several patients have obtained relief for many months. In one series of four cases in Foix's clinic in Paris in August, 1925, I obtained immediate relief after the first treatment, two of the patients receiving the full series of three injections. How long the relief lasted in that series (beyond one month) I am unaware.

Some of these cases have been reported in the *Canadian Medical Association Journal* for June, 1925 (Intractable Sciatica; the Sacral Epidural Injection; an Effective Method of Giving Relief, *Canad. M. A. J.* **15**:630 [June] 1925; The Relief of Chronic Pain in the Lower Segments of the Body by the Sacral Epidural Injection, *ibid.* **15**:1136 [Nov.] 1925). I have submitted a later report to the *Archives of Neurology and Psychiatry* which is to be published.

True, my routine injection is much larger, 20 cc. of 1 per cent procaine hydrochloride solution followed by 50 cc. or more of physiologic sodium chloride solution, but I feel certain that the results obtained by Hassin are mechanical, resulting from the injection of the fluid per se into the

epidural space, and that the introduction of the arsphenamine merely adds an arsenical with an action no different from its injection elsewhere for this disease.

I might add that with a large number of these treatments for varied conditions of lower body pain I have seen few unpleasant and no dangerous by-effects. A more detailed description of this method appears in an article of mine in the *Archives of Neurology and Psychiatry* for June, 1925, entitled "The Lipiodol Test for Patency of the Cerebrospinal Canal in a Case of Sciatica."

NORMAN VINER, M.D., Montreal.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF OXYURIS INFESTATION

To the Editor:—Can you give me any information on the treatment of *Oxyuris vermicularis* infestation? I attend a family consisting of two adults and five small children who have all been afflicted with these worms for the past eighteen months in spite of treatment. I have tried all the routine medication and enemas, santonin, quassia and tannin, and instructions have been faithfully carried out with only temporary relief. Please omit name.

M.D., Pennsylvania.

ANSWER.—The explanation of the failure of permanent relief is to be found in reinfection. The egg-laden female, escaping from the anus, produces enough irritation to cause scratching, and, on crushing of the worm, large numbers of eggs are liberated. By way of soiled fingers, these are liable to reach the mouth again, thus keeping up an endless circle. To prevent this, the child should wear such sleeping garments as to make it impossible for the fingers to have access to the anus. Scrupulous cleanliness of the anus as well as of the hands and finger nails is obviously necessary. Applying some ammoniated mercury ointment to the end of the anal canal and around its orifice may be of advantage. It is believed that a carbohydrate-free diet such as one would use in diabetes is of advantage in such cases. Occasional doses of santonin and prolonged use of sulphur by mouth are also believed to be advantageous. But the most important direct remedy are high colonic flushings of hypertonic (6 per cent) salt solution or of infusion of quassia, or the two combined. These injections should be given every other morning for a month; and, when accompanied by care against reinfection and appropriate dietetic and drug treatment by mouth, a satisfactory result should be obtainable. Obviously, the entire family should undergo this treatment simultaneously.

Solórzano Morfín (*Gac. Méd. de Méx.* **58**:742 [Dec.] 1927) cured cases of *Oxyuris* infestation with Ribas (*Am. J. Trop. Med.*, November, 1927, p. 389) intra-intestinal thermal method.

INDICATIONS FOR CESAREAN SECTION

To the Editor:—I should like to know the percentage of obstetric cases that require a cesarean operation. If you are not able to furnish me with this information, can you inform me as to where I might find this?

HARRY FEADER, M.D., Toronto.

ANSWER.—Since cesarean sections are not generally reportable to boards of health or other agencies that collect vital statistics, it is impossible to give a correct answer. Furthermore, the incidence depends on many factors, and it varies considerably in different parts of the world and in different sections of each country. In the United States a few persons have analyzed the cesarean sections performed in their state or city. In Massachusetts for the year 1922 there was one cesarean operation in every seventy-eight births (De Normandie, R. L.: *Boston M. & S. J.* **189**:1011 [Dec. 20] 1923). In Pasadena, Calif., for the year 1924, one out of every forty-six births was a cesarean section and 75 per cent of all the deliveries occurred in hospitals (Hibben, J. S.: *Am. J. Obst. & Gynec.* **10**:843 [Dec.] 1925). For obvious reasons, the incidence of cesarean section as published in hospital reports is much higher than the frequency of abdominal deliveries for all the births in the cities in which the hospitals are located. Nevertheless, the statistics of the following hospitals are of interest: At the Johns Hopkins Hospital from 1896 to 1924 there was one cesarean section for every forty-eight births (Williams, J. W., and Sun, K. C.: *Am. J. Obst. & Gynec.* **11**:735 [June] 1926); the Chicago Lying-In Hospital and Dispensary from 1918 to 1925, one in fifty-three (statistical report by Kennedy, Strean and Harries); the Cook County Hospital from 1914 to 1925, one in ninety-one (Lewis, H. F.: *Surg. Gynec. Obst.* **42**:815 [June] 1926); six hospitals in New Orleans for six years, one in fifty-three (Miller, H. E.: *Am. J. Obst. & Gynec.* **14**:773 [Dec.] 1927), and for the year 1925, Jefferson Hospital, Philadelphia, one in six; Boston Lying-In Hospital, one in twelve; Bellevue Hospital, one in ninety-seven; Johns Hopkins Hospital, one in 125; Swedish Hospital, Minneapolis, one in 201; New York Lying-In Hospital, one in 585; Minneapolis General Hospital, one in 631; Burnside Hospital, Toronto, one in 861 (Tottenham's letter, quoted by Mosher: *Surg. Gynec. Obst.* **45**:655 [Nov.] 1927). The frequency of cesarean section in an outpatient department more nearly approximates the frequency for the entire number of births in a given locality. In the outpatient department of the Cornell University Medical School in affiliation with the Berwind Maternity Clinic for the years 1922-1925 there was one abdominal section for every 246 births (Bailey: *Am. J. Obst. & Gynec.* **11**:817, 1926).

The difference in the frequency of cesarean section for deliveries in hospitals and for births in an entire city is clearly set forth by Welz (*Am. J. Obst. & Gynec.* **13**:361 [March] 1927) of Detroit. In 1925 there was one abdominal delivery for every sixty-eight births in nineteen hospitals, whereas the incidence for the entire city of Detroit was one in 217.

DIGITALIS AND MYDRIASIS

To the Editor:—In the past few months I have read somewhere that in certain cases digitalis or its proprietary derivatives causes dilatation of the pupils. I am not sure that I didn't read it in some pharmaceutic advertising journal like the one Squibb & Co. prints. I have a case in which there is no history of coming into contact with any mydriatic in any way. She was taking digitalis as prescribed by her family physician and had been over a long period of time. This drug was removed and her pupils were soon down to normal. Will you be so kind as to advise me if anything is known of this subject and where I could have read this? Also, the causes of mydriasis, other than drugs or paralysis? Please omit my name.

M.D., Virginia.

ANSWER.—The "American Encyclopedia and Dictionary of Ophthalmology," edited by Casey A. Wood (Chicago, Cleveland Press, 1919) contains an extensive article on the "Pupil in Health and Disease," in which digitalis is referred to as one of the drugs that may produce mydriasis.

TECHNIC OF CERVICAL REPAIR—TREATMENT OF CATARACT

To the Editor:—1. Is it good technic to use silk or linen on the stump of a cervix for the large vessels? Catgut was used to sew the stump, but for the uterine and ovarian and other large bleeders linen and silk were used. In one instance out of thousands this seems to have been the exciting cause for a sinus to develop. 2. Is there value in the use of ethylmorphine hydrochloride, 10 per cent, injected into the culdesac or dropped into the eye to arrest or dissolve the opacities in cataract? Please omit name.

M.D., Fort Wayne, Ind.

ANSWER.—1. Properly prepared catgut is preferable to nonabsorbable suture material for the ligation of blood vessels. Extremely fine silk is an excellent emergency substitute for catgut, but heavier silk is a possible cause of sinus formation. It is a universal rule that silk must never be buried in infected tissues.

2. Ethylmorphine hydrochloride, 10 per cent or any strength, injected or instilled into the conjunctival sac is of no value for either the arrest or the cure of cataract of any type. There is no other drug which is of any demonstrable value as an aid to this condition. The chief use of ethylmorphine hydrochloride in ophthalmology is as an aid for clearing corneal opacities and in the treatment of iritis.

EXCESSIVE MENSTRUATION IN GIRL

To the Editor:—What is the best treatment for a case of excessive menstrual flow in a girl, aged 13 years? It is her third period; the first two were fairly normal, although the second was somewhat excessive also, and she has now flowed heavily for six days, using from four to ten napkins daily. She is normal in every way and is bright in school. I have kept her in bed, have used an ice cap on the lower part of the abdomen, and have given her ergot. Should she have a glandular preparation to correct the trouble? What are the chief causes of this condition? Please omit name.

M.D. Kansas.

ANSWER.—Functional disturbances of the glands of internal secretion are the chief cause of abnormal menstruation in girls. The mechanism of production of these disturbances

is not well understood. The thyroid, ovaries and pituitary appear to be most often at fault; of these, thyroid disturbances are probably the most frequent and are the most easily detected.

Retrodisplacements of the uterus are often accompanied by excessive menstruation. In these cases the menorrhagia is ascribable to ovarian hyperfunction, resultant from the abnormal position and congestion of the ovaries; the uterus plays a minor part in the etiology of such bleeding.

Curettage is of no permanent value in the treatment of menorrhagia of unmarried young women except in those rare cases of bleeding due to pedunculated tumors. Removal of greatly thickened hyperplastic endometrium checks the flow for not longer than two or three months.

After determination of the basal metabolic rate, administration of thyroid extract, ovarian residue or desiccated pituitary gland may bring relief. Extract of suprarenal gland, 0.2 Gm. capsules three times a day, is often helpful.

Operation may be indicated in patients with marked retrodisplacement in whom the bleeding is ascribable to ovarian hyperfunction.

USE OF FERROUS IODIDE AND IODIZED SALT

To the Editor:—Is there any contraindication to giving cod liver oil with ferrous iodide when the patient's food is being seasoned with iodized salt? Would the patient be liable to get too much iodine? I refer to children.

W. H. VAN TIGER, M.D., Eldora, Iowa.

ANSWER.—The amount of iodine in "iodized" salt is comparatively small. According to Useful Drugs, the "iodized table salt" commonly used in the United States contains 0.1 Gm. (1½ grains) of sodium iodide in each kilogram of salt. The product of one of the large salt companies contains one part of potassium iodide to 5,000 of salt. This is 1 milligram in 5 grams (approximately 1 grain in each 10 ounces) of salt. There is no contraindication to giving cod liver oil with ferrous iodide even though the patient is using "iodized" salt; however, the indiscriminate use of "iodized salt" without medical supervision is, of course, not to be recommended.

TREATMENT OF CLUBFOOT

To the Editor:—1. How soon after birth are plaster casts put on babies with clubfoot? 2. How frequently are these casts changed? Kindly give me any additional information which you think will be of value regarding the treatment of clubfoot. Kindly omit name.

M.D., New York.

ANSWER.—1. Plaster casts are put on babies with clubfoot immediately after birth. That is, immediately after birth the feet should be massaged and forcibly corrected and casts immediately applied. It has been the experience of orthopedic surgeons that plaster casts when applied are much less irritating to the skin of the new-born infant than is adhesive strapping.

2. The casts should be changed every seven days at first, later on every two or three weeks.

REMOVAL OF SPLEEN IN SPLENIC ANEMIA

To the Editor:—I would appreciate a summary from you as to the present opinion of the profession as to the value of splenic removal in true splenic anemia. We have a child, aged 8 years, whose physical examination is entirely negative, as are the history and all laboratory aids, except for a marked severe secondary anemia, a hemoglobin of 50, erythrocytes 3,500,000, and a normal leukocyte and differential count. Liver diet proving valueless, we have given the child repeated transfusions in order to maintain the hemoglobin and erythrocytes at the present level. The literature is in controversy as to the duration of life following splenectomy. It is with this thought that I am writing to you. Please omit name.

M.D., Newark, N. J.

ANSWER.—From the question as formulated, it is difficult to know what form of anemia this case presents. It is generally agreed by the best authorities that the spleen should not be removed in the various forms of leukemia, polycythemia, or malaria, syphilis and tuberculosis. Leukemia must be carefully ruled out before splenectomy is undertaken. In the aleukemic conditions the differentiation is often difficult and the case should be studied over an extended period before the operation is performed.

On the other hand, splenectomy is indicated in certain types of chronic anemia, such as Banti's disease, Gaucher's disease, Niemann's disease and the congenital and acquired forms of hemolytic jaundice. It has also been suggested that splenectomy may be occasionally performed in pernicious anemia, though this condition is so rare in early childhood that it need scarcely be considered.

The case referred to is probably not one of Gaucher's disease, as attested to by the fact that there is no record of leukopenia and enlargement of the liver, which usually occurs in this form of anemia.

In Banti's disease the condition occurs in late childhood or adult life. It is usually associated with leukopenia and splenomegaly; eventually, cirrhosis of the liver and ascites occur.

In Niemann's disease the leukocytes may be increased and the disease is characterized particularly by a lipoid degeneration of the specialized cells of the liver, spleen and bone marrow.

In the question submitted, we are left in some doubt as to the nature of the anemia. There is no mention of a splenomegaly, and consequently removal of the spleen could not be justified for an anemia which may be due to a great variety of causes. From the data submitted, it would appear that the case cited is one of severe secondary anemia, and splenectomy would be contraindicated.

NEURALGIC PAINS IN DIABETES

To the Editor:—Kindly inform me of the treatment which gives the best results in neuralgic pains in the legs in a diabetic patient. What results are obtained with the alpine light treatment? Please omit my name.

M.D., Bronx, N. Y.

ANSWER.—The treatment of neuralgic pains, so called, in the legs of a diabetic patient at best is not satisfactory. Ultraviolet radiation has given some results but should be used with caution. Hot baths and other measures tending to produce vascular dilatation sometimes are helpful. Salicylates and other such drugs sometimes are necessary.

POSSIBLE CHANGES OF CLIMATE FOR CHILD WITH REPEATED RESPIRATORY INFECTIONS

To the Editor:—I have a patient, a boy, aged 6 years, who has, every winter, attacks of bronchitis or bronchial pneumonia. Preventive inoculations and tonics, such as cod liver oil, do not seem to accomplish the desired result. The family is considering the advisability of moving to a different climate. I am wondering as to the effect of the change and which section of the country would be most desirable?

M. H. THOMPSON, M.D., Orwell, Vt.

ANSWER.—A warm, dry climate should be desirable for such a boy. Seasons vary; however, one would expect that Arizona or New Mexico would be desirable. Southern California might be considered. Quartz light exposures, given frequently over a long period, might be suggested if a change of climate is not possible.

THE SIGNS OF DEATH

To the Editor:—What are some reliable tests of death? I would prefer knowing those which are not too complicated in applying.

O. S., North Dakota.

ANSWER.—A good discussion of the signs of death is given by James Ewing in Legal Medicine and Toxicology, edited by Peterson, Haines and Webster (second edition, Philadelphia, W. B. Saunders Company **1**:175, 1923). This article should be read by any one who is really interested in studying the signs of death. In determining whether death has taken place the condition of the circulation, respiration, the muscular system and the eye must be taken into consideration.

PAIN AFTER BALDY-WEBSTER SUSPENSION OF UTERUS

To the Editor:—About four months ago I operated on a woman, removing an appendix and doing also a Baldy-Webster suspension for retroversion. She now complains of a good deal of pain in both right and left quadrants as before operation. At the time of operation, the ovaries and tubes were normal and left untouched. At present, the uterus is anteverted and the cervix is quite thickened. Recently I tried to cut down the size of the cervix with the electrocautery and she has had a good deal of relief since. Do you think it wise to go on with the cautery and more or less destroy the cervix, do an amputation, or what other treatment might I try? Please omit name.

M.D., Maine.

ANSWER.—Since the patient has experienced much relief from cauterization of the cervix, one or more such treatments may be given. Amputation of the cervix should be the last resort, especially if the patient is in the child-bearing period. The pain in both lower quadrants may be due to tension on the round ligaments, and since the operation was performed only four months ago, nothing radical should be done. The pain may disappear spontaneously during the next few months.

FORMULA FOR TREATMENT OF EPITHELIOMA WITH X-RAY

To the Editor:—Please publish the roentgen-ray formula for the treatment of epithelioma. I have a small Wappler unit with a Coolidge tube which has a maximum of 8 inch spark gap. At 5 inch gap it has a maximum of 60 kilovolts. Is a filter necessary? If so, what thickness of aluminum? Please omit my name.

M.D., North Dakota.

ANSWER.—A successful x-ray formula is as follows:

Seventy-five kilovolts (4 inch spark gap).
Five milliamperes.
No filter.

If the erythema dose is known, give from two to two and a half times at each of two or three sittings, seven days apart, except when the lesion lies immediately over the bone, in which event the dose should be from one to one and a half times the erythema skin dose.

If the erythema dose is not known, the following will approximate the proper set-up:

Nine inch target skin distance.
Eight to ten minutes exposure time (four to six minutes for lesions over bone).

Cut out a hole in a piece of thin lead, about one-half inch larger than the lesion, for a mask.

This formula will result in a severe reaction, necessary in the treatment of this malignant lesion. The lesion invariably disappears in from three to eight weeks.

TREATMENT OF BACILLARY DYSENTERY

To the Editor:—I have had a patient with bacillary dysentery Shiga since July 12, 1927. His temperature is still from 98.6 to 102 F. and he has a moderate phlebitis of both legs and some distention of the abdomen. The stools are loose, there are two or three a day, and they contain blood. I have used many of the intestinal antiseptics, have given him about five injections of dysentery antitoxin, and have administered mercurochrome intravenously. In addition, he has had enemas of tannic acid, sulphocarbol of zinc, silver nitrate and physiologic sodium chloride solution. He has been so sick that general supportive treatment has had to be given. Blood examination revealed: hemoglobin, 65 per cent; red blood corpuscles, 4,100,000; white blood corpuscles, 7,000; the blood count has been lower. The general nutrition is fair, in view of the length of time the patient has been sick. Any suggestions you can give me will be greatly appreciated.

M.D., Duluth, Minn.

ANSWER.—On the basis of the blood picture and the patient's general nutrition, one must conclude that what the patient is lacking is the ability to develop an immunity to the invading organism. The patient should be put on a high caloric nonresidue diet, devoid of fruits except orange juice and grapefruit juice. Lactose or lactose with acidophilus buttermilk may be helpful. Twice daily irrigations of neutral acriflavine, 1:4,000 should be used, from 300 to 500 cc. at one time, with the patient lying on his left side and retaining it for at least twenty minutes. Concentration can be rapidly increased to 1:3,000. Sodium bicarbonate, 2.5 per cent, enemas may be substituted for the neutral acriflavine irrigation if it becomes irritating for one day only. Mild silver protein, 1:100, or strong silver protein, 1:500 solutions, 500 cc. as an irrigation, may be helpful. Autogenous vaccine of the offending organism should be used and serum therapy kept up. Kaolin in large doses by mouth, as much as from 100 to 300 Gm. daily, may be beneficial. In very stubborn cases appendicostomy with daily washings of the bowel with 0.5 per cent copper sulphate solution should be tried. This may be used as a regular colonic irrigation but is more beneficial through the appendicostomy opening.

EFFECTS OF DIPHTHERIA ANTITOXIN ON HEART

To the Editor:—Is it true that diphtheria antitoxin is injurious to the heart? Are there any contraindications, other than the well known serum sickness and anaphylactic shock, to the administration of prophylactic doses of this antitoxin to persons exposed to diphtheria? Is it not a universally accepted fact that diphtheria antitoxin, aside from reactions due to the serum itself, is entirely harmless? Please omit name.

M.D., Portland, Oregon.

ANSWER.—So far as known, diphtheria antitoxin itself is not injurious to the heart. There is every reason to believe that it is harmless except for the possible undesirable effects of the horse serum in which the antitoxin is contained. In giving diphtheria antitoxin for preventive purposes, it should be borne in mind that the resulting protection lasts only three or four weeks; and that in addition to the possibility of precipitating serum sickness and shock at the time of injection, the antitoxic serum (horse) may sensitize the person injected and that this effect may last a long time.

SUGAR TOLERANCE IN DIABETES

To the Editor:—I am treating a girl, aged 17 years, for diabetes mellitus of six years' standing. She requires 30 units of insulin daily on a total calory diet of 1,495. If she takes less insulin, sugar appears in all specimens. I should like to know whether she will continue to require 30 units daily. Will insulin be necessary the rest of her life? What is the prognosis of such a case? Please omit name.

M.D., New York.

ANSWER.—In some cases of diabetes it is apparently possible to reduce the amount of insulin which a given patient requires, although there is still dispute as to whether insulin actually increases tolerance. From a careful and critical review of what is known at present the chances are that this patient will require insulin permanently; but, assuming that she will continue to use it, the prognosis for an otherwise perfectly normal healthy life is excellent.

MEASUREMENTS OF FOREARMS

To the Editor:—Please state what the measurements should be of the forearm of a man, aged 24, 5 feet 5 inches (165 cm.) in height and weighing 135 pounds (61 Kg.). Also the measurements of the arm at its middle third. The young man is of more than average muscular development and very agile. He does handsprings and many tumbling acts with ease. He is a college man and is on at entertainments to do feats of strength and agility. In the case in question, would one expect a difference in the measurements of the right and left arms? The young man is right handed in the main but has slight traits of ambidexterity. Please omit name and address.

M.D., Texas.

ANSWER.—It is impossible to state what the measurements of any individual "should be." It is possible to give averages, but even these are misleading because the measurements which would be reasonable for a 200 pound man would be unusual for one of 135. The circumferences of forearm and upper arm of the young man in questions might well be somewhere between 9 and 12 inches if he is muscular. In a right handed person the measurements of the right arm are usually somewhat greater.

DIAGNOSIS OF TRAUMATIC NEURASTHENIA

To the Editor:—What are the essential physical signs and symptoms, also mental symptoms, on which posttraumatic neurasthenia can be diagnosed? If the thalamus is suspected of being affected in any way from an injury over the forehead, what would be the pathognomonic symptoms of such an involvement of the thalamus? Kindly inform me concerning the very latest authorities and theses written on these subjects, and where such can be obtained. Do you consider the opinion of H. Campbell Thompson on posttraumatic neurasthenia (chapter LII, pages 467-475, second edition), as reliable as any American authority on this subject? Please omit my name.

M.D., Connecticut.

ANSWER.—By the term traumatic neurasthenia is usually meant a form of neurosis; that is to say, a condition in which no definite organic lesion can be found. Many, however, believe that lesions are present even though they cannot be localized. The physical signs, in consequence, are indefinite. The features characteristic of the neurasthenic state are those of irritable weakness—rapid fatigue on exertion, constant tiredness, sensitiveness to sensory stimuli, irritability, restless sleep, headache or uncomfortable feelings in the head, and pains and tenderness in various parts of the body. The mental state is one of introspection, with feelings of hopelessness and incapacity. Symptoms of irritable nature may also occur in any of the various systems of the body—irritability of the heart action so that the rate increases even on such slight exertion as merely standing up, gastro-intestinal disturbances, respiratory difficulties, genital disturbances. The literature on the subject is extensive and articles will be found in any good textbook of neurology with references to literature.

If there is evidence of injury to the structures of the optic thalamus, the case ceases to be one merely of a neurosis. A traumatic lesion of the thalamus will produce symptoms identical with those caused by any other lesion of this structure provided the same nerve cells are injured. The chief function of the thalamus is as a sensory station lying between the brain cortex and the periphery. Destructive injury gives rise particularly to hemianesthesia of the opposite side of the body, the loss of sensation involving particularly the deep sensibility—muscle, joint and bone sense, sense of position—and much less the superficial senses of touch and pain. Severe deep-seated pain in the anesthetic side is frequent. With these there may be athetoid and choreatic disturbances in movement, especially in association with voluntary action; sometimes there is mild incoordination. Hemianopia due to involvement of the pulvinar may also occur.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 9-10. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville. Sec., Homeo. Bd., Dr. A. A. Pringle, Eureka Springs. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

CONNECTICUT: New Haven, June 9. State Board of Healing Arts, Box 1895, Yale Station, New Haven.

DISTRICT OF COLUMBIA: Washington, April 10. Sec., Dr. Edgar P. Copeland, Suite 110, 1801 Eye St., Washington.

FLORIDA: Jacksonville, June 11-12. Sec., Dr. William M. Rowlett, 812 Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta and Augusta, June 6-8. Sec., Dr. B. T. Wise, Americus, Georgia.

HAWAII: Honolulu, April 9-12. Sec., Dr. James A. Morgan, Room 48 Young Bldg., Honolulu.

ILLINOIS: Chicago, April 10-12. Supt. of Reg., Mr. V. C. Michels, Springfield.

LOUISIANA: New Orleans, May 1. Sec., Homeo. Bd., Dr. F. H. Hardenstein, 830 Canal St., New Orleans.

MINNESOTA: Minneapolis, April 17-19. Sec., Reg. Bd., Dr. A. E. Comstock, 524 Lowry Bldg., St. Paul.

NEBRASKA: Omaha, May 1. Sec., Basic Science Bd., Mr. Lincoln Frost, Lincoln.

NEVADA: Carson City, May 7-9. Sec., Dr. Edw. E. Hamer, Carson City.

NEW MEXICO: Santa Fe, April 9-10. Sec., Dr. Wm. T. Joyner, Roswell.

OHIO: Columbus, June 6-8. Sec., Dr. H. M. Platter, State Savings Bank Bldg., Columbus.

New Jersey October Examination

Dr. Charles B. Kelley, secretary of the New Jersey Board of Medical Examiners, reports the written examination held at Trenton, Oct. 18-19, 1927. The examination covered 9 subjects and included 90 questions. An average of 75 per cent was required to pass. Of the 16 candidates examined, 13, including 2 osteopaths, passed, and 3 failed. Sixty-six candidates were licensed by endorsement of their credentials. The following colleges were represented:

PASSED — College	Year Grad.	Per Cent
George Washington University Medical School	(1926)	82.2
Northwestern University Medical School	(1926)	83.2
University of Illinois College of Medicine	(1927)	88
Harvard University Medical School	(1925) 90.1, (1926)	85.7
Jefferson Medical College of Philadelphia	(1926)	80.4, 89.3
University of Pennsylvania School of Medicine	(1925)	84.1
University of Toronto Faculty of Medicine	(1922)	90.6
University of Cagliari, Italy	(1898)	76.6†
University of Naples, Italy	(1919)	79.1
Osteopaths		75.5, 79.2

FAILED — College	Year Grad.	Per Cent
University of Naples, Italy	(1923),*	(1926) 56.3
University of Leningrad, Russia	(1919)	71.4†

LICENSED BY ENDORSEMENT — College	Year Grad.	Endorsement with
University of Arkansas School of Medicine	(1926)	Arkansas
Yale University School of Medicine	(1926)	New York
Georgetown University School of Medicine	(1925)	Dist. Colum.
Howard University School of Medicine	(1925), (1926)	Georgia, Dist. Colum.
Indiana University School of Medicine	(1926)	Indiana
University of Louisville School of Medicine	(1926)	New York
Baltimore Medical College	(1904)	Penna.
University of Maryland School of Medicine and the College of Physicians and Surgeons	(1925), (1926, 2)	New York (1926, 2) Maryland
Boston University School of Medicine	(1926, 2)	New York
Harvard University Medical School	(1924)	N. B. M. Ex.
University of Michigan Medical School	(1925)	Michigan
St. Louis University School of Medicine	(1925)	Penna.
Columbia University College of Physicians and Surgeons	(1896), (1923), (1926, 4)	New York
Cornell University Med. College	(1924) New York; (1925)	N. B. M. Ex.
Long Island College Hospital	(1925), (1926)	New York
New York Homeo. Med. College and Flower Hospital	(1926)	New York
Syracuse University College of Medicine	(1925)	New York
University and Bellevue Hospital Med. Coll.	(1912), (1914) (1922), (1925), (1926, 2)	New York
University of Buffalo School of Medicine	(1906)	New York
Eclectic Medical College	(1926)	New York, Ohio
University of Cincinnati College of Medicine	(1919) (1925), (1927, 2)	New York Ohio
Hahnemann Med. College and Hospital of Philadelphia, Homeopathic	(1910), (1911), (1921) Pennsylvania, (1922), (1924) Pennsylvania; (1921), (1926)	New York
Jefferson Medical College of Philadelphia	(1904) (1925)	Penna. North Carolina
University of Pennsylvania School of Medicine	(1921)	New York
Woman's Medical College of Pennsylvania	(1908), (1926)	New York
Medical College of the State of South Carolina	(1926)	S. Carolina
Vanderbilt University School of Medicine	(1916)	Tennessee
University of Vermont College of Medicine	(1926)	Vermont
McGill University Faculty of Medicine	(1926)	New York
University of Toronto Faculty of Medicine	(1894) (1925) N. B. M. Ex.	Penna.
University of Berlin, Germany	(1914)	Maine
National University of Athens, Greece	(1898)	Mass.
University of Budapest, Hungary	(1912)	New York
School of Medicine and Surgery, Lisbon, Portugal	(1900)	R. Island

† Verification of graduation in process.
* No grade given.

Maryland December Examination

Dr. Henry M. Fitzhugh, secretary of the Board of Medical Examiners of Maryland, reports the written examination held at Baltimore, Dec. 13-16, 1927. The examination covered 9 subjects and included 90 questions. An average of 75 per cent was required to pass. Of the 23 candidates examined, 19 passed and 4 failed. Eight candidates were licensed by reciprocity and 2 candidates were licensed by endorsement of their credentials. The following colleges were represented:

PASSED — College	Year Grad.	Per Cent
Yale University School of Medicine	(1926)	85.3
Georgetown University School of Medicine	(1927)	84.1
Howard University School of Medicine	(1919)	79.1
Johns Hopkins University School of Medicine	(1924) (1925) 82.6; (1927) 76.5, 87.7	79.7
University of Maryland School of Medicine and the College of Physicians and Surgeons	(1919) (1927) 87.2, 88.6, 89, 90.7	86.1
Harvard University Medical School	(1911) 91.3; (1926)	87.8
Jefferson Medical College of Philadelphia	(1927)	83.3
Temple University School of Medicine	(1927)	83.1
University of Pennsylvania School of Medicine	(1927)	88.6
Meharry Medical College	(1927)	76.5
University of Wurzburg, Germany	(1924)	87.2

FAILED — College	Year Grad.	Number Failed
Howard University School of Medicine	(1927)	2
Maryland Medical College, Baltimore	(1912)	1
University of Naples, Italy	(1900)*	1

LICENSED BY RECIPROCITY — College	Year Grad.	Reciprocity with
College of Medical Evangelists	(1923)	California
Howard University School of Medicine	(1924), (1925)	Dist. Colum.
State University of Iowa College of Medicine	(1924)	Iowa
University of Maryland School of Medicine and the College of Physicians and Surgeons	(1913)	N. Carolina
Cincinnati College of Medicine and Surgery	(1891)	Ohio
Jefferson Medical College of Philadelphia	(1913)	Penna.
Meharry Medical College	(1924)	Virginia

LICENSED BY ENDORSEMENT — College	Year Grad.	Endorsement with
Rush Medical College	(1925)	N. B. M. Ex.
Johns Hopkins University School of Medicine	(1926)	N. B. M. Ex.

* Graduation not verified.

Louisiana December Examination

Dr. Roy B. Harrison, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Dec. 8-10, 1927. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Twenty-three candidates were examined, all of whom passed. Twelve candidates were licensed by reciprocity. The following colleges were represented:

PASSED — College	Year Grad.	Per Cent
University of Arkansas School of Medicine	(1927)	86.2, 87.8
Indiana University School of Medicine	(1926)	84.1
Tulane University of Louisiana School of Medicine	(1927) 87.8, 88.1, 88.5	87.3,
Harvard University Medical School	(1926) 86.1; (1927)	88.4
University of Nebraska College of Medicine	(1927)	86.4
University of Pennsylvania School of Medicine	(1916) (1926) 84.2; (1927) 87.7, 88	90,
University of Pittsburgh School of Medicine	(1927)	89.3
Meharry Medical College	(1927)	82.3, 86.8
Memphis Hospital Medical College	(1910) 75; (1912)	83.8
University of Tennessee College of Medicine	(1927)	86.8
Baylor University College of Medicine	(1927)	85.3
University of Texas School of Medicine	(1926)	86.6
University of Manitoba Faculty of Medicine	(1926)	91.4

LICENSED BY RECIPROCITY — College	Year Grad.	Reciprocity with
Emory University School of Med	(1914) Georgia; 1916)	Alabama
Rush Medical College	(1901)	Wisconsin
Tulane University of Louisiana School of Medicine	(1915)	Alabama
Baltimore Medical College	(1897)	Maryland
University of Michigan Medical School	(1924)	Michigan
St. Louis University School of Medicine	(1925)	Missouri
Columbia University College of Physicians and Surgs.	(1917)	Minnesota
University of Cincinnati College of Medicine	(1923)	N. Carolina
University of Tennessee College of Medicine	(1914)	Mississippi
University of Texas School of Medicine	(1926)	Texas
Medical College of Virginia	(1906)	S. Carolina

Book Notices

APPENDICITIS. By Hubert Ashley Royster, A.B., M.D., Surgeon to Rex Hospital, Raleigh, N. C. Surgical Monographs under the editorial supervision of Dean Lewis, A.B., M.D., Eugene H. Pool, A.B., M.D., and Arthur W. Elting, A.B., M.D. Cloth. Price, $7. Pp. 370, with 58 illustrations. New York: D. Appleton & Company, 1927.

Monographs will always occupy an important position in medical literature. A textbook soon becomes outdated. An article can usually deal with only one phase of the subject. For this reason the new monographic series edited by Dean Lewis, Eugene H. Pool and A. W. Elting is welcome. In the first volume, this monograph by Royster, the author attempts to deal with the subject in its entirety. There are chapters devoted to the history of appendicitis, its anatomy, pathology, diagnosis, differential diagnosis and treatment. A separate chapter is devoted to the subject of appendicitis in children. The diagnosis of appendicitis implies a knowledge of practically all acute abdominal diseases. The volume should prove of interest to every surgeon and particularly to the general practitioner, on whom so much depends in the matter of early recognition and early operation of the commonest of all acute abdominal diseases. While all the chapters are adequately treated, those on differential diagnosis and complications are particularly valuable. An exhaustive bibliography adds much. In the matter of literary style it is curious to note that the author, while strenuously objecting to the expression "acute abdomen," elsewhere speaks of "appendical diagnosis," "appendical pathology" and even of "appendical patients." This, however, in no way detracts from the value of the contents or from the general excellence of the style.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, und A. v. Wassermann. Band I. Lieferung 12. Allgemeine Morphologie und Biologie der pathogenen Mikroorganismen (Schluss). Von Prof. Dr. E. Gotschlich, etc., etc. Third edition by W. Kolle, R. Kraus, and P. Uhlenhuth. Paper. Price, 25 marks. Pp. 161-522, with 9 illustrations. Jena: Gustav Fischer, 1927.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, und A. v. Wassermann. Band IV. Lieferung 8. Pseudotuberkulose. Von K. Poppe, etc., etc. Third edition, by W. Kolle, R. Kraus, and P. Uhlenhuth. Paper. Price, 14 marks. Pp. 413-584, with 23 illustrations. Jena: Gustav Fischer, 1927.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, und A. v. Wassermann. Band IV. Lieferung 11. Meningokokkeninfektionen. Von Prof. Dr. K. W. Jötten, etc., etc. Third edition by W. Kolle, R. Kraus, and P. Uhlenhuth. Paper. Price, 14 marks. Pp. 585-788, with 2 illustrations. Jena: Gustav Fischer, 1927.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, und A. v. Wassermann. Band V. Lieferung 7. Infektionen durch Trichobakterien. Von Prof. Dr. O. Huntemüller, etc., etc. Third edition by W. Kolle, R. Kraus, and P. Uhlenhuth. Paper. Price, 27 marks. Pp. 320, with 114 illustrations. Jena: Gustav Fischer, 1927.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, und A. v. Wassermann. Band VIII. Lieferung 9. Piroplasmosen. Von Prof. Dr. C. Schilling, etc., etc. Third edition by W. Kolle, R. Kraus, and P. Uhlenhuth. Paper. Price, 21 marks. Pp. 212, with 75 illustrations. Jena: Gustav Fischer, 1927.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, und A. v. Wassermann. Band IX. Lieferung 10. Die Lungenseuche der Rinder. Von Prof. Dr. H. Dahmen, etc., etc. Third edition by W. Kolle, R. Kraus, and P. Uhlenhuth. Paper. Price, 19 marks. Pp. 188, with 56 illustrations. Jena: Gustav Fischer, 1927.

The first six sections of this well known compendium have already been reviewed in THE JOURNAL. A brief statement cannot do justice to the authors, who have apparently given much time in an effort to bring the contents to date. This effort has been made in every section of the book, as is evidenced by a study of the bibliographies included. Section 7 contains much new material on higher organisms, such as the leptothrix, cladothrix and the actinomycetes. The discussion of actinomycosis has been revised. The pathogenic molds have been more fully treated than before. Section 8 includes pseudotuberculosis, the staphylococci and the organisms of undulant fever. Additions of interest in the chapter on the staphylococci are included in the portions of the text on lysins and specific therapy. In the light of recent work on undulant fever, this chapter has been completely rewritten by Lustig and Vernoni and is particularly to be recommended. Section 9 should be mentioned largely on account of the chapter on immunity in protozoan infections. The greater part of the literature cited has appeared since the second edition. This section also contains discussions of the piroplasmas and amebas. Section 10 includes many animal diseases. The revision of the chapter on rinderpest should be mentioned. Section 11 contains chapters on the meningococci and the gonococci, including a separate discussion of immunity in gonococcal infections. Much of the material has been entirely rewritten and brought down to date. Section 12 finishes the discussions of an earlier section on the morphology and biology of pathogenic micro-organisms. The portals of entry of bacteria into the body are discussed as well as the distribution of micro-organisms in air, soil, water and milk. The material on infection has been rewritten by Seitz. The discovery of the bacteriophage phenomenon since the second edition of the Handbuch has necessitated the addition of a special chapter written by Otto and Munter. This contains an adequate treatment of the subject and an extensive and apparently complete bibliography.

A TREATISE ON ORTHOPAEDIC SURGERY. By Royal Whitman, M.D., M.R.C.S., F.A.C.S., Surgeon to the Hospital for the Ruptured and Crippled. Cloth. Price, $9. Pp. 1061, with 954 illustrations. Philadelphia: Lea & Febiger, 1927.

This volume, the eighth edition, strikingly demonstrates the great advance in scope and method of this branch of surgery since the publication of the first edition in 1901. The work, for years a recognized standard textbook, is now thoroughly revised. The subject is fully presented from all angles, operative and nonoperative, with details of technic and due consideration given to cases in adults as well as to those of children. New appliances are described and recent refinements in operative technic are included. Among some of the newer material that has been added or subjects that have undergone marked revision are infantile paralysis, peroneal atrophy, Kiembock's disease, Köhler's disease of the head of a metatarsal bone, periarterial sympathectomy, osteotomy and treatment of clubfoot in adults. Certain procedures that have become standardized in the author's practice, notably astragalectomy and backward displacement of the foot, the abduction treatment and the like, are described in detail, and the chapter on collateral orthopedics has been expanded to supplement fittingly the biographic, statistical, anatomic and clinical data that have made this volume a popular book of reference. The subject is presented as far as practicable from a functional standpoint, and emphasis is laid on the early development of practical reconstruction. The material is excellently presented for use in clinical teaching, and the book today is one of the foremost textbooks for students, general practitioners and specialists in orthopedic surgery.

MANUAL OF SURGERY (ROSE AND CARLESS). For Students and Practitioners. By Albert Carless, C.B.E., M.B., M.S., Hon. Fellow, American College of Surgeons, and Cecil P. G. Wakeley, F.R.C.S., F.R.S., Erasmus Wilson Lecturer, Royal College of Surgeons of England. Twelfth edition. Cloth. Price, $11. Pp. 1544, with 717 illustrations. New York: William Wood & Company, 1927.

The last previous edition of this standard textbook was published in 1924. That there is need for a new edition in three years shows that the book continues to be a favorite. The general scheme and arrangement remain essentially the same. Some addition has been made to the number of illustrations, some of the old ones have been replaced, and there has been a slight reduction in the number of pages. While there is no superior one-volume manual of surgery in the English language, it is surprising that some of the more modern developments have failed to receive mention although they are to be found in a recent edition of an American textbook of similar scope. Among subjects not discussed are tularemia, sporotrichosis, granuloma inguinale, massive collapse of the lung, tannic acid treatment of burns, the Queckenstedt test for tumors of the spinal cord, and the use of iodine in the preoperative preparation of goiters associated with hyperthyroidism. While the preoperative use of iodine is one of the most important advances in surgery in the last three years, the only references to the use of iodine in the treatment of goiter are "Bromides, iron, and perhaps iodide of potassium are administered" and "Iodine ionization is also

at times useful." Another surprising omission is the entire absence of any mention of ethylene anesthesia, nor is any mention made of ventriculography. The surgical treatment of esophageal diverticulum is dismissed with the statement that when possible it consists in removing it and stitching up the opening in the pharyngeal wall. No mention is made of the more conservative methods, that of plication and inversion (Girard) or the removal in two stages (Judd), which are the only methods that can be used with safety. Certain of these subjects are discussed in the new English textbook on surgery by Romanis and Mitchiner, a contemporaneous publication of similar scope. Their book includes some discussion of sporotrichosis and of granuloma of the pudenda, but likewise omits all the other subjects mentioned. However, the book has been revised and for the most part brought down to date, as is evidenced by the inclusion of such subjects as cholecystography, or visualization of the gallbladder by the use of opaque dyes, and the use of iodized oil in the diagnosis of tumors of the spinal cord (a rather dangerous procedure, condemned by so great an authority as Elsberg), and also the use of iodized oil in the diagnosis of pulmonary cavities, tuberculous or bronchiectatic. In spite of the omissions noted, this manual still remains a valuable textbook for students.

Nouveau traité de médecine. Fascicule XXI, Nerfs.—Sympathique. Névroses. Par G. H. Roger, Fernand Widal, et P. J. Teissier. Boards. Price, 85 francs. Pp. 900, with illustrations. Paris: Masson & Cie, 1927.

The twenty-first volume of this standard French system deals with peripheral nerves, the sympathetic nervous system and the neuroses. The cranial nerves are treated in volume XX. The first 400 pages of the present volume are devoted to a thorough and well illustrated discussion of the diseases of the spinal nerves by Tinel. This includes multiple neuritis. Chiray and Pavel discuss "neurovegetative syndromes," some of which are a little vague. Causalgia and Horner's syndrome comes in this chapter. Parisot and Cornil deal with vasomotor neuroses, Heuyer and Marinesco with trophic disorders. Lévy-Valensi has a brief chapter on nervous disturbances of temperature. The last 200 pages are on the neuroses and familial nervous diseases. Migraine is discussed by the Danish neurologist Christiansen, the familial diseases by Crouzon, the other neuroses by Klippel and Weil. On the whole, the subjects are dealt with adequately, with the possible exception of the psychoneuroses. The latter are treated in a rather schematic manner, and some of the newer views are not stated.

Pulmonary Tuberculosis: Its Etiology and Treatment. A Record of Twenty-Seven Years' Observation and Work in Open-Air Sanatoria. By David C. Muthu, M.D., M.R.C.S., L.R.C.P., Associate of King's College, London. Second edition. Cloth. Price, $5. Pp. 381, with 28 illustrations. New York: William Wood & Company, 1927.

In this edition the author expands on the principles outlined in the first and does not alter his conclusions. He is still a bacteriologic nihilist, believing that pulmonary tuberculosis is a deficiency disease due to a combination of malnutrition, improper housing and general maladjustment. Abrams' apparatus is found of value in diagnosis, but his therapeutic measures are not advocated. The volume is full of repetitions and contradictions, but nothing is introduced to controvert the conclusions of the author, who seems to have read widely but not well.

Health and Exercise for Girls. By Anne M. Robertson, B.A., Principal of Wycombe House School, Brondesbury. With illustrated supplement of practical exercises designed by F. A. Hornibrook. With a foreword by Sir Bruce-Porter, K.B.E., C.M.G., M.D. Cloth. Price, 5s. net. Pp. 62, with 12 illustrations. London: William Heinemann, 1927.

There is need for education of the child in hygiene and health. Teaching health through the medium of a book has obvious difficulties. It is not easy to write a book on medical subjects that is clear and easily understandable to those who have no scientific background. This book is written by one who apparently is not well versed in medical science. Consequently it contains many misstatements. There is a tendency to ascribe a myriad of ills to constipation. In some places cause and effect are reversed. For example, it is stated that mouth breathing causes adenoid growths. The errors are somewhat counterbalanced by the easily understandable style in which the book is written. The general hygiene of the body and some points in physiology are discussed in a way that will not only appeal to the young girl but will also be clear to her. The book contains a number of practical exercises for increasing the strength, giving poise and correcting constipation. The exercises are clearly presented and well illustrated.

The Foundation of Health. A Manual of Personal Hygiene for Students. By William Barnard Sharp, S.M., M.D., Ph.D., Professor of Bacteriology and Preventive Medicine in the Medical Department of the University of Texas. Second edition. Cloth. Price, $2.50 net. Pp. 288, with 20 illustrations. Philadelphia: Lea & Febiger, 1927.

The text of the first edition remains practically unchanged except for the addition of two new chapters—one on strains and accidents and the other on health at work and at school. The author has perhaps erred on the side of brevity but by so doing has made the book more valuable for use in relatively short courses in hygiene, such as are frequently included in normal schools.

La diathermie et ses applications médicales. Par le Docteur Paul Duhem, électro-radiologiste de l'Hôpital des Enfants-Malades. Paper. Price, 10 francs. Pp. 71, with 17 illustrations. Paris: Gauthier-Villars & Cie, 1928.

Duhem must have heard the voice of the common practitioner asking what diathermy is all about. He has prepared a statement, simplicity itself, telling briefly but lucidly what the general subject covers, the phenomenon of the alternating current, the typical instruments, the technic of application, the physiology as far as this subject has been investigated, and the therapeutic uses. It is reassuring to read a dispassionate statement concerning diathermy by an authoritative worker. It is comforting to one accustomed to the bombast of physical therapy to find students who admonish that diathermy is not a panacea, that it will never be a panacea, that there are electrical dangers and dangers of burns in the hands of careless or ignorant technicians. From an experience with 12,000 treatments which Duhem administers annually in his children's hospital, he concludes that only by eternal vigilance may a conscientious worker avoid mishaps. It is revealed further that nutritional disturbances with subnormal temperatures, athrepsia, pylorospasm and poliomyelitis yield well to this form of treatment when properly conducted, and that other conditions, such as chronic arthritis, yield unless the frequently disinherited factor of pathology interdicts such as the deformans, tuberculous, effusive and in some measure the gouty types. One gets the impression that diathermy is one of the imponderables of therapeutics whose field is open to exact scientific investigation.

Exposures of Long Bones and Other Surgical Methods. By Arnold K. Henry, M.B., B.Ch., F.R.C.S.I., Professor of Clinical Surgery, Royal School of Medicine, Cairo. Foreword by Sir W. I. de C. Wheeler. Cloth. Price, $3.50. Pp. 80, with 51 illustrations. New York: William Wood & Company, 1927.

This volume is in reality not only a monograph on the subject but also a collection of papers written by the author between the years 1920 and 1926 dealing with problems and difficulties encountered in his operative work at Richmond Hospital, Dublin. The operative procedures were worked out both in the operating room and in the dissecting room of the Royal College of Surgeons in Ireland. The book is divided into two sections. Section I deals with exposures of long bones. The methods presented include exposure of the humerus, radius, femur, including the femoral shaft and the popliteal face, internal or medial exposure, external or lateral exposure, and exposure of the fibula. This section comprises approximately half of the book. Section II deals with other surgical methods, including exposure of the plantar structures, a method of ligating the second stage of the vertebral artery, a method of ligating the first stage of the left subclavian artery from behind, a cup-and-ball aneurysm needle for deep ligations, a new method of resecting the left cervicodorsal ganglion of the sympathetic, and pituitary surgery by a new method. It is a pleasure to review a book of this caliber. Rarely does one see a small volume which presents so much that is of value and of practical clinical application that has

been studiously developed by careful anatomic investigation. The book is well illustrated, so that one can quickly grasp the anatomic and physiologic basis of the procedures advocated. The methods of approach are entirely new and are based on principles of safety, simplicity and speed. This presentation of entirely original, bold yet extremely practical and valuable methods of exposure may be classed with the little volume of Fiolle and Delmas which appeared during the World War. The author, in his preface, states that it is impossible to write on exposures of this type without being inspired by that book, which, in its tiny bulk, contains the whole spirit of the art. The same may be said of his little volume, which is just as valuable for the operations discussed. The work is a real contribution to modern operative surgery, and no one doing general surgery can afford to be unfamiliar with its contents.

BEITRÄGE ZUR KENNTNIS DER GENESE DER OVARIALEMBRYOME. Experimentelle Untersuchungen über parthenogenetische Ovarialgravidität bei Amphibien. Von Wilhelm Bosæus, Med. Lic., Fil., Kand. Paper. Pp. 303, with illustrations. Upsala: Almqvist & Wiksells, 1926.

This sums up five years of research by the author on the origin of ovarian teratomas at the pathologic Institute of the University of Upsala. The author first reviews the theories of origin of genital teratoids, and then gives experimental evidence to disprove the objections usually offered to the existence of parthenogenic development of the ovum in the formation of teratomas. In this connection the experiments of Bataillon and of Hertwig with fishes and amphibians are freely cited, and Bosæus believes that they greatly strengthen the probability of parthenogenic development in mammals, including man. The author attempted to prove this experimentally by heteroplastic and autoplastic transplants and by retransplants of amphibian embryos into different parts of the body of adult amphibians. The embryos developed without the protection of the placenta and membranes, resulting in the so-called experimental teratoids. From a study of a large number of such experiments Bosæus observed that the embryos became vascularized by the host and soon became transformed into subordinate tissue masses. These further developed into polycystic tumors resembling cystic teratomas in structure and composition. No sex cells were ever found in any of the tumors. No inflammatory reactions at the site of transplantation occurred. Bosæus believes that his researches speak strongly for the fact that cystic teratomas observed in vertebrates can occur by parthenogenesis. The monograph is a record of true scientific endeavor and will doubtless attract the attention of students of pathology and gynecology. A number of photomicrographs from the author's experimental material, with descriptive legends, are appended.

SURGERY, ITS PRINCIPLES AND PRACTICE. For Students and Practitioners. By Astley Paston Cooper Ashhurst, A.B., M.D., F.A.C.S., Professor of Clinical Surgery in the University of Pennsylvania. Third edition. Cloth. Price, $10. Pp. 1179, with 1061 illustrations. Philadelphia: Lea & Febiger, 1927.

The first edition of this one volume textbook appeared in 1914. The work was so well conceived that it was immediately recognized as furnishing a broad foundation for a knowledge of surgery. In the new edition the general scheme has not been altered. It contains about a hundred new illustrations and two new colored plates, and, with the exception of a few diagrams, there remain in this volume scarcely any figures that are not original. New photomicrographs and new roentgenograms have been added, and although new matter has been added in the text the total number of pages has been reduced by about eighty. Discussion of the following subjects has either been added as new material or the old sections have been rewritten: alkalosis, septicemia, tularemia, blastomycosis, sporotrichosis, granuloma inguinale, treatment of anthrax, paravertebral and synergistic anesthesia, sciatica, fractures of the femur and of the leg and ankle, sarcoma of bone, treatment of hydrocephalus, hyperthyroidism, laryngectomy, surgery of the thymus, of pulmonary tuberculosis and of bronchiectasis, massive collapse of the lung, chronic dilatation of the duodenum, visceroptosis, congenital anomalies of rotation and fixation of the intestines, and carcinoma of the rectum. While certain of the newer methods of treatment are not included, such as the treatment of varicose veins by injection, the author states in his preface that "it is evident that it is impossible to make mention of every therapeutic novelty" and quotes the author of the Rambler, who says that matters not mentioned in a work of this kind are either "the refuse of contempt or the omissions of negligence" and hopes that in this volume there are few of the latter.

KOMPENDIUM DER TOPISCHEN GEHIRN- UND RÜCKENMARKSDIAGNOSTIK. Kurzgefasste Anleitung zur klinischen Lokalisation der Erkrankungen und Verletzungen der Nervenzentren. Von Robert Bing, Professor an der Universität Basel. Seventh edition. Paper. Price, 10 marks. Pp. 259, with 114 illustrations. Berlin: Urban & Schwarzenberg, 1927.

Two things attract attention when this book is first opened: first, the clear, well selected, and in many instances multicolored schematic drawings, which show considerable ingenuity and originality; second, the excellent print. On further investigation the reading matter is found to be equally excellent, clear and concise, yet sufficiently complete not to be schematic. The book is confined to the subject stated in the title, namely, topical diagnosis of lesions of the brain and cord. The correlation of lesions and symptoms is made plain. The technic of examination and the description of individual diseases are not within the scope of the book.

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY. By Hamilton Bailey, F.R.C.S., Surgeon, Dudley Road Hospital, Birmingham. Cloth. Price, $6.50. Pp. 217, with 261 illustrations. New York: William Wood & Company, 1927.

The subject of physical examination has not received the same attention in surgical literature that it has in internal medicine. The teaching of how to elicit such common signs as fluctuation, crepitation, facial nerve irritability, lump in the breasts and muscle rigidity has been done in a haphazard way. For this reason Bailey's small volume is a welcome addition to our surgical literature. The author describes in detail the method of application of the most commonly used physical signs in surgery. This book should prove particularly useful in connection with dispensary teaching.

ORGANIC INHERITANCE IN MAN. By F. A. E. Crew, M.D., D.Sc., Ph.D., Director of the Animal Breeding Research Department, the University, Edinburgh. Cloth. Price, 12/6 net. Pp. 214, with illustrations. Edinburgh: Oliver & Boyd, 1927.

In this book the author has given in briefest outline, yet with illuminating detail, the basic principles of genetics, with a logical application of these principles to heredity in man. The first two thirds of the book is concerned with an orderly presentation of the known facts and the postulations of organic inheritance as expressed in the two laws of Mendel: the theory of the gene, or essential factor in hereditary transmission; the theory of sex determination, and the theory of genetic function. By means of a series of primarily simple but increasingly complex charts the author portrays graphically the process of heredity as conceived today. This conception cannot as yet be conclusively summarized and presented as these theories are necessarily incomplete and lacking in accurate, confirmatory data. In general, the process of organic inheritance would seem to involve an orderly interaction of genes—the units of hereditary transmission—in accordance with the mendelian laws and perhaps in the presence of activating factors similar to such chemical agents as enzymes, possibly liberated by the genes themselves. Both the charts and the accompanying comment are exceedingly technical and therefore susceptible of interpretation only by the trained biologist and geneticist. In the remaining third of the book, however, in which the author comments on consanguinity in mating and on normal and abnormal inheritance, concluding with a consideration of some of the implications of the genetic theory, the discussion is less technical and of more immediate although necessarily theoretical interest, since, as he points out, man is the most unsatisfactory of experimental material. Nevertheless, because heredity in man may be assumed to proceed in much the same manner as heredity in other animal types, a fascinat-

ing field for speculation on the possibilities of race betterment and of human progress is opened by this carefully scientific analysis, with its philosophical interpretation, of organic inheritance in man. The book is amplified by a prefatory lecture on William Withering and by a detailed appendix of hereditary defects in man and their mode of transmission.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

A STUDY OUTLINE DESIGNED TO ASSIST STUDENTS OF NURSING WHO ARE TAKING AN INTRODUCTORY COURSE IN EDUCATIONAL PSYCHOLOGY. By Maude B. Muse, R.N., M.A., Assistant Professor of Nursing Education, Teachers College, Columbia University, New York City. Paper. Price, $2 net. Pp. 140, with 31 illustrations. Philadelphia: W. B. Saunders Company, 1928.

Outline for another specialty in the nursing field.

ALUMINUM COMPOUNDS IN FOOD. Including a Digest of the Report of the Referee Board of Scientific Experts on the Influence of Aluminum Compounds on the Nutrition and Health of Man. By Ernest Ellsworth Smith, Ph.D., M.D. Cloth. Price, $7 net. Pp. 378. New York: Paul B. Hoeber, Inc., 1928.

Another blast in the baking-powder warfare.

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Miscellany

KOAN OGATA'S FUSHI IKAI NO RYAKU*

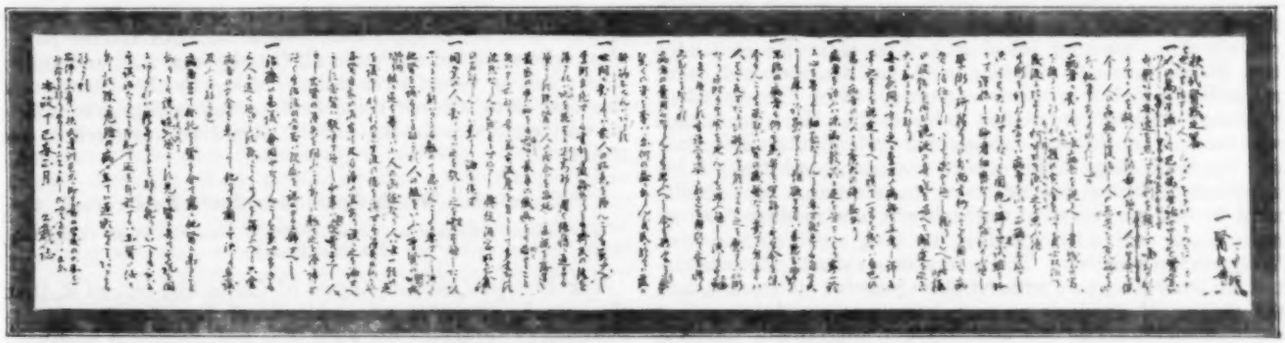
Translated by

SHIRO TASHIRO, PH.D., AND MARTIN H. FISCHER, M.D.
CINCINNATI

To the novitiate in any profession the problems of that profession and their answers are likely to seem only new. To the more experienced both are likely to prove old. In this sense the difficulties of the modern physician are old, and universal.

In the past years the Japanese have tried to find a solution for some of their problems by an emphasis on the teachings of their own older generations. A leader in this movement has been T. Irukayama,[1] who among his other efforts in this direction has unearthed, reproduced and republished, with emendations, Koan Ogata's famous scroll. Ogata began life in 1812 and ended it in 1863. His medical code, which is here translated into English, is the revision of the Supplement (De Verpligtigen des Geneesheers) to Hufeland's Enchiridion Medicum. The Japanese version, while of the same general content, is a more closely written and crisper text than the original Dutch. The illustration is from the original Ogata text.

As so often, comfort, inspiration and truth are again found in the words of a neglected master.



Original Koan Ogata scroll "Fushi Ikai No Ryaku."

FUSHI IKAI NO RYAKU

I

The physician lives not for himself but for others. This is the essence of his profession. Do not look for fame or profit. Work to save others though you lose yourself. Maintain life, restore the sick and ease the suffering of men. You have no other object.

II

Face to face with a patient, remember only that he is sick, not his station or his wealth. Compare the rich man's handful of gold with the poor man's tear of gratitude. Which will you have?

III

When practicing your art remember that the patient is the target, not the bow or arrow. Do not play with him. Think without prejudice; consider with narrowed eyes.

IV

Besides being modern and erudite, learn how to win the confidence of your sick man through word and action. But let these be not superficial, casual or pretentious. Do not mouth deceptive and queer hypotheses.

V

At night think over the happenings of the day. Record your experiences and observations. Such benefit the patient and the world.

VI

One deliberate examination and one visit are superior to many careless examinations and many visits. But do not refuse to make frequent calls on the ground that such degrade your dignity.

VII

Even when the disease is incurable, understand the sufferings of your sick man and do your duty by trying to maintain his life. It is inhuman to surrender. Even when you cannot save him, you can comfort him. This is the human art. Try to prolong his life even though it be for but a moment. Do not tell him of the hopelessness of his state. Through your discretion in word and manner you will not let him guess the real situation.

VIII

Make the patient's illness cost him as little as possible. Of what use to save his life when you take away the means of its maintenance?

IX

The physician must win the good will of the public. However skilful your science, however dignified your conduct, you cannot impart to advantage the good within you unless you hold the confidence of your people. You must understand man and the public's state of mind. You who are interested in life, who must listen to naked truth, who must hear the confession of shameful sin, need character and gentleness. Avoid gossip. Silence is better. Nor need I warn you against gambling, drunkenness, sexual excess and anxiety for fame.

X

Respect and love the colleagues of your profession. But, if impossible, at least be patient. Do not discuss other physicians. To narrate their shortcomings is the shame of the wise man; to talk of their defects is the business of the small. A moment's discussion of a single error may work perpetual injury to a reputation. Consider such consequences. Every physician has his own characteristics and his own methods. Do not judge lightly. Respect the older physician and endear the younger to you. Stress their better side and refuse to comment on their treatment since you have not seen the patient.

* From the University of Cincinnati College of Medicine.

* Koan Ogata's revision of Hufeland's Code for the Physician.

1. Irukayama, T.: The Life of Koan Ogata, Tokyo, 1927; also several articles in the Japan Medical World **17**, 1927.

XI

A consultation should not include many—three at most. Select the right men. In conference, consider only the safety of the sick man and argue nothing else.

XII

A patient may leave his physician to consult you. Do not be deceived. Hear the former physician's side. But where convinced that the treatment has been in error, it is against the code to be indifferent. Especially when critical, act, and with vigor.

These twelve mandates have I written and showed to a few, but mainly did I write them for my own guidance.

Medicolegal

Refusal of Office Practitioner to Go to Patient

(Urrutia v. Patino et al. (Texas), 297 S. W. R. 512)

The Court of Civil Appeals of Texas, in reversing a judgment for $31,000 damages which was rendered in favor of the widow and children of one Patino, says that it was alleged that the defendant physician treated Patino for syphilis before having a Wassermann test made, and that the defendant failed to follow up and thereafter treat him, which was a contributing cause of his death. The plaintiffs contended that Patino was not suffering with syphilis, and had never so suffered, and that the treatment given by the defendant was improper and contributed to his death. Here the burden was on the plaintiffs to establish that fact. But the defendant did not, according to his direct testimony and that of his assistant, a physician, undertake the treatment for syphilis until he had the report of the assistant, who made a Wassermann blood test and a urinalysis showing a two plus positive Wassermann reaction. There was no evidence, circumstantial or otherwise, to overcome these positive statements, and the finding of the jury on that issue was not only against the preponderance of the evidence but against the evidence itself. There was not the least evidence that if Patino had continued under the treatment of the defendant he would have been cured. So, for negligent killing, the case must depend on the fact that the improper treatment if any, given by the defendant, was the proximate cause of his death, and this was the pivotal point which must evolve the really true and only cause. Of course, if negligently and carelessly administering without skill and ability the medicine was the direct cause of his death, the defendant would be liable whether he treated him thereafter and followed it up or not. It would possibly be in that case a contributing cause that he did not follow up and treat the patient; but the evidence to support such a doctrine should be very satisfactory. While it is probably true that the relation of the physician and patient is a very close one, and especially so is it with that of a family physician, the relation here was not of the latter class but of the former.

After the defendant refused to follow up the case from his office, he was discharged and could not be charged with neglect thereafter. In refusing to leave his office in accordance with his practice, his custom being only to treat patients who came to his office, he was within his rights and Mrs. Patino was within her rights to secure another competent physician, which she did, though he did not consult with the defendant. The testimony showed that the defendant did only an office and hospital practice and did not visit at private homes. Patino was not carried to the defendant's office or to any hospital, nor was it shown that he could not have been safely carried there for further examination and treatment. It was conceded that the defendant declined to go to the private home for the reason that he did not practice away from his office or hospital, presumably because his kind of practice held him where he had access to his equipment, etc. Professional relations between the physician and his patient are at most merely contractual and may ordinarily be terminated at the will of either party.

It was contended that in failing to call on and attend Patino when he was called on to do so the defendant was guilty of a breach of his duty to his patient; that in so refusing to call on and attend his patient at a critical period the defendant improperly deprived his patient of his ability, his knowledge of his previous treatment; that the defendant's actions deprived his patient of the services of a physician during several days of the most critical period of his illness, so as to thereby directly cause and directly contribute to cause his death. But with the unsatisfactory testimony developed in the case, and owing further to the character of the illness of the patient, who visited the defendant for treatment at his hospital, a physician who did not go outside to practice his profession and treat patients, this court would not be justified nor can it afford to lay down a rule of law contended for concerning the ethics of the medical profession. Under the circumstances of this case it cannot be said that the defendant was negligent in not going to see the patient.

Too much emphasis was placed by the plaintiffs and by the court's charge and the argument of counsel before the jury on the fact that the defendant did not visit Patino at his home. Such being the state of the record, it was error to refuse an instruction requested by the defendant that if the jury believed from the evidence that the defendant as a physician did not make visits to patients outside his office or hospital, and further believed that this fact was communicated to the family of Patino and that, after the defendant refused to visit him, the family secured the services of another physician, who rendered to Patino all the services, skill and ability that could or would have been rendered by the defendant, a question as to whether the defendant was negligent in failing to wait on and treat the patient should be answered in the negative.

Objects for Which Operations Could Be Ordered

(Los Angeles County v. Industrial Acc. Commission et al. (Calif.), 259 Pac. R. 369)

The District Court of Appeal of California, second district, division 1, says that an employee of Los Angeles County suffered an injury to his right eye and cheek. A physician made a report in which he said:

> Numerous scars over the entire right cheek; lower border of orbit sunken, apparently fracture. There is a paresia of the upper lid. The palpebral fissure is one-half inch lower than on other side. There is some voluntary contraction in the orbicularis palpebrarum. The upper lid overlaps the lower at the outer canthus and is distorted at this point by adhesions. There is some loss of tissue of the lower lid with irregularity. Examination of the mouth shows sinus opening above the right upper first molar, apparently from antrum. No sulcus behind the lower lid to hold artificial eye. There is purulent discharge from the orbit. There is also a continuous purulent discharge into the mouth. There is some loss of periorbital fat. There are two different stages of repair necessary in this case. First is the deepening of the socket, which could be done in one operation by the method of epithelial inlay, and which would not require over one week to ten days, and then the lower lid would require some plastic operation to complete the borders, while the upper lid could be freed and raised up. These operations would not require any great length of time. The second stage would be the cleaning out of the antrum and closure of the sinus. I cannot state just how long this would take. By plastic operation, however, the appearance of the patient could be markedly improved, and he would wear an artificial eye.

The employer (county) complained of the finding and order of the industrial accident commission wherein in effect it was found and ordered that the employer should furnish to the employee the further operative treatment recommended in the report of the physician; furthermore that, should the employer neglect or refuse to furnish such treatment within a reasonable time after the date of the order, at the expense of the employer, the employee should be entitled to secure such treatment from his own physician. It was the contention of the employer that the proposed operations and treatment recommended by the physician were for cosmetic effect only, and that the commission was without jurisdiction to make the order of which complaint was made. But an inspection of the report disclosed the fact that in part at least the purpose of the recommended treatment was to relieve the patient from the condition arising primarily from the two

purulent discharges referred to in the report, together with the added feature of cleaning out the antrum and closure of the sinus. To that extent, therefore, it was clear that the commission was acting within its statutory powers.

On the part of the employer, the purpose of any surgical attempt in connection with an injury received by an employee is to restore him to as nearly a natural and normal condition as may be possible or practicable, to the end that his earning power by reason of his injury may be diminished to the least possible extent. In the instant case, what was then the appearance of the employee would be a decided handicap to his obtaining employment in an open labor market. The evident purpose of some of the proposed surgical operations on the employee was to give him a more presentable personal appearance. In the condition in which he was, by reason of his limitations and the natural competition in securing employment, it might, and in all probability would, be extremely difficult for him to secure such work as he was capable of doing. If successful, the result of the proposed surgical operations would place him, not only in a position where he could secure better and more remunerative employment than he otherwise might command, but his improved personal appearance would assist in enabling him to retain such position. The probabilities were also that his morale would be bettered, and his self-respect and appreciation of his good workmanship qualities be increased—all tending toward a rehabilitation and restoration of his earning powers as of the date of the injury which he sustained. This court is therefore led to the conclusion that, even though conceding that the major object of the proposed surgical operations on the employee might be for cosmetic purposes only, the industrial accident commission, in making the order therefor, was not acting in excess of its statutory powers.

It might, however, be said that the record clearly disclosed the fact that, after twenty-two surgical operations on the employee, the employer admitted its inability to relieve him further from the effect of his injuries. But the physician who made the report quoted, the evidence of whose skill was admitted, promised the desired relief. In such circumstances, assuming the successful outcome of the proposed surgical operations, the employer may be made liable for the necessary expense connected therewith.

Employers Cannot Recover for Medical Expenses

(The Federal No. 2 (U. S.), 21 Fed. R. (2d) 313)

The United States Circuit Court of Appeals, second circuit, says that a seaman employed by a company was injured while aboard one of its barges and was removed to a United States marine hospital. The company paid the expenses incurred for his maintenance and cure at the hospital and sought reimbursement from a tug whose negligence it contended caused the injury. But the court perceives no right of action accorded to the company. The right to maintenance and cure is granted to seamen because of the contractual relation, and the covenant of such obligation is implied by operation of law. The effective and proximate cause of the company's damage was due to the contract with the seaman, and the law does not predicate liability on the party occasioning a contingency contemplated in such contract of employment. Where a father is permitted to recover for loss of services or expense in the cure of his child, it is based on the recognition of the natural parental obligation to care for and maintain the infant child. In such case, the tort-feasor (wrongdoer) is held responsible because he is expected to recognize the natural and probable consequences of his act. The same is true where recovery is allowed a husband for loss sustained by reason of injury to his wife. But this social condition does not exist in the relationship of a seaman and his employer. It is a contract obligation, which he must perform, that imposes this responsibility, even though it be a special damage he suffers from a tortious act. The cause of the responsibility is the contract; the tort is the remote occasion. Where recovery for tortious injury to a servant has been allowed, it has been in the case of loss of service of a servant on account of personal injury to him. But in no case that this court has been able to find may an employer recover for loss incurred in attempting to cure the servant. Where recovery is allowed to a master for loss of service of his servant, it is on the theory that his right or interest has been injuriously affected. But ordinarily damage suffered by one whose interest in the party or thing injured is contractual is too remote for recovery, unless the wrong is done with intent to affect the contractual relations.

Valid Restrictions on Professional Advertising

(Laughney v. Maybury et al. (Wash.), 259 Pac. R. 17)

The Supreme Court of Washington, in affirming a judgment dismissing the plaintiff's action in injunction against the state director of licenses and others which the plaintiff began after he had been cited to show cause why his license as an osteopathic physician and surgeon should not be revoked, says that a complaint had been filed charging him with unprofessional conduct, as defined by section 10063, Remington's compiled statutes, the complaint charging him with exceeding the limit of advertising prescribed by the regulations in that statute, in that in daily newspapers and by means of a pamphlet which was circulated he engaged in what may be spoken of as self-laudatory, "come to me" advertising.

As to the right of a physician or surgeon to be protected in his profession under the guaranties of both constitutions (state and federal) there is, of course, no doubt. It may be stated generally that any one has a right to pursue any lawful calling; yet, in respect to certain vocations not in themselves unlawful, including the practice of medicine and surgery, the right is necessarily and properly subject to legislative restrictions or regulations from consideration of public policy. They are vocations which from time to time and in one way or another other very nearly concern the health, comfort, life and general welfare of every person, and statutes designed to accomplish such restrictions or regulations are founded on the police power inherent in the state. They do not violate any constitutional provision with reference to liberty or the rights of property as long as they are within other safeguards.

The plaintiff argued that the law on the subject of advertising (section 10063) prohibits all character of advertising by an osteopathic physician and surgeon rather than an attempt to regulate it, and that it is therefore in violation of constitutional rights. The statement with reference to the contents of the statute is not wholly true, nor, of course, can this court agree with the conclusion or argument that its provisions are in violation of constitutional rights. The statute specifically mentions certain kinds of advertising that may be done and prohibits other kinds. That it prohibits and was intended to prohibit the kind of advertising with which the plaintiff was charged, and which he admitted, is doubtless true and in the opinion of this court is valid. This court has no doubt that the regulation was in response to the prevailing opinion and demands of the public, and that the legislature so understood it, not simply from the standpoint of professional ethics, but as suited and necessary for the common welfare.

Again, it was contended that to allow regular physicians to advertise while prohibiting the same privilege to osteopaths is discriminatory and in violation of the state constitution. The contention indicated a misconception of the language of the two statutes and of the evils intended to be remedied. The law applicable to osteopaths (section 10063) prohibits advertising of any kind other than a professional card, window sign or street sign; exploiting or advertising through the press or by the use of handbills, circulars or other periodicals, other than professional cards giving an address, profession, office hours and telephone connection. The statute applicable to physicians and surgeons of the regular school (section 10015) prohibits all advertising of medical business which is intended or has a tendency to deceive the public or impose on credulous or ignorant persons and so be harmful or injurious to public morals or safety. So that the osteopath is allowed by a specific enumeration to do certain advertising not permitted to the regular school expressly, but by implication only. These statutes as well as those on the

same subject applicable to the dentist, the chiropractor and the drugless healer, although differing somewhat in each case in the language employed, are essentially the same in design, and of course must be interpreted and understood with reference to the evils the legislature meant to remedy and prevent.

It is common knowledge that frequently persons of good health are prone to imagine that they are in need of treatment, and that one thus afflicted, or if he is suffering from some actual bodily disease, is more easily imposed on than one who possesses a sound mind and body. It is the design of these laws against unprofessional conduct to protect such persons and to declare, in legal effect, in all of them as it does specifically in section 10015, as a matter of public policy, that all advertising of medical business which is intended or has a tendency to deceive the public or impose on credulous or ignorant persons, and so be harmful or injurious to public morals or safety, constitutes unprofessional conduct. This language used in relation to physicians and surgeons of the regular school is broad and sweeping, and, under the rule that the whole includes all of the parts, instead of there being unjust discrimination against the school to which the plaintiff belongs, it may be argued with considerable show of reason that he is simply included within the declared public policy. The rule applicable to the regular school may according to the facts in a given case comprehend the other, at least to an extent within the pleadings or complaint against the plaintiff in the present case according to the facts that may be adduced and in the judgment of the triers of the facts.

Waiver of Law Forbidding Disclosures by Physicians

(New York Life Ins. Co. v. Snyder (Ohio), 158 N. E. R. 176)

The Supreme Court of Ohio, in reversing a judgment rendered in favor of the beneficiary of a life insurance policy and affirmed by the court of appeals, says that the controlling question was whether a waiver executed by the insured was available in support of a defense against the policy when the beneficiary sought to enforce the policy. The waiver in question was:

> I expressly waive, on behalf of myself and of any person who shall have or claim any interest in any policy issued hereunder, all provisions of law forbidding any physician or other person who has heretofore attended or examined me, or who may hereafter attend or examine me, from disclosing any knowledge or information which he thereby acquired.

While there are some cases to the contrary, the great weight of authority supports the claim that such a waiver is available against the beneficiary, and this court now holds that when an applicant for life insurance incorporates in his written and signed application therefor a waiver in such terms as the foregoing, such waiver may be enforced by the insurance company against any and all parties having or claiming to have any interest in the policy issued pursuant to such waiver. Nothwithstanding the provisions of section 11494 of the general code of Ohio, and independent of the provisions of that section, the insurance company holding such waiver has a right to require any physician or surgeon to testify concerning any facts he may have knowledge of which tend to support a defense against the enforcement of the policy based on the claim of the insurance company that the policy was procured by false and fraudulent statements and representations made by the insured in his written application for the insurance. Neither the execution of such a waiver by the insured nor its enforcement by the insurance company prior to or after the death of the insured is in any way violative of public policy.

It is plain why the insurance company considers the right to secure the physician's evidence as of the greatest value. In the first place, if the physician were permitted to testify, he would not have the same incentive to misrepresent that the insured might have. Furthermore, the physician has the full statement of the insured made to him, and, supplementing this, his own observation and tests made to determine the truth about the then real physical condition of the insured. After full disclosure made by the patient, the physician may know much more about the extent of the malady from which the patient is suffering than the patient can possibly know himself. It is therefore of the highest importance that the insurance company know to what extent, if at all, an applicant has consulted with and procured advice and treatment from other physicians. And it is clearly important that the insurance company have the right to learn what medical advice and treatment the policyholder subsequently may take after the policy is issued. It may well be that later medical examinations and treatments will disclose the presence of maladies of long standing, and thereby establish the fact that they existed prior to the taking out of the policy. To enter a judgment in favor of the insured, after excluding the evidence of physicians with respect to his physical condition at the time of the taking out of the policy, is not in furtherance of justice. Surely the insurance company has a clear right to say to an applicant for insurance, "We will not issue a policy of insurance to you unless you give to the company full and complete authority to acquire any information which any physician may now possess or may hereafter possess concerning the state of your health at the time of taking out the policy."

Erroneously Reporting and Quarantining for Smallpox

(McGuire v. Amyx et al. (Mo.), 297 S. W. R. 968)

The Supreme Court of Missouri, division 1, in affirming a judgment in favor of two defendants, one of whom was a practicing physician and the other the chief diagnostician of the division of health of St. Louis, who were sued for damages, says that, May 2, 1919, the plaintiff's mother went to the physician's office for examination and treatment. The plaintiff, aged 7 years, accompanied her mother, but not for examination or treatment. The plaintiff at the time had a "breaking out" on the palms of her hands and the soles of her feet, and there was testimony tending to show that a similar condition existed on her shoulders, arms, and forehead at the hair line. The physician's attention was attracted to this condition, and he concluded that she had smallpox. On his report she was taken in an ambulance to the city dispensary, where she was examined by the chief diagnostician, who committed her to the quarantine hospital, in which she was confined in a ward with persons suffering from smallpox. May 11, she was discharged as cured; but on Wednesday or Thursday after her discharge on Sunday she began to be chilly, was very sick, and was put to bed on May 17. On the 25th the chief diagnostician and another physician of the health department called, examined her, and again committed her to the hospital, from which she was on June 3 again discharged as cured.

The defendant physician pleaded that the plaintiff came under his observation and he reported the case. Testimony of other physicians tending to show that it was the custom of physicians in St. Louis to report suspected cases of smallpox to the health division of the city was admitted as tending to show the practice and custom independent of the duty of physicians under the city ordinance. This testimony was admissible as tending to show the conduct of prudent men under similar circumstances. It might be considered by the jury with other facts and circumstances in deciding the issue of negligence under the instructions. It was not offered or admitted as a defense; therefore, it was not necessary to plead it.

An instruction was given the jury that if it found that the plaintiff came under the observation of the defendant, a practicing physician of the state of Missouri, at his office, and that she presented physical evidences which indicated to him, and which to a reasonably prudent and informed physician would indicate the presence of the disease of smallpox, and if the jury found that the disease is a dangerous, infectious and communicable disease, then it became and was the duty of the defendant to report the facts to the proper health authorities of St. Louis, and the jury could not find against the defendant for so doing, even though the jury should find that, as a matter of fact, the plaintiff was not suffering from the disease. The court holds that the instruction correctly declared the law. It was contended that the instruction did not require the jury to find that the defendant prescribed for or attended the plaintiff as her physician; in other words,

he must bring himself within the terms of the ordinance or he was without defense, but the court cannot agree to this contention. The public health is of the greatest concern to all. By law its keeping rests with the attending physicians, householders and health officers. Public policy favors the discovery and confinement of persons afflicted with contagious diseases, and this court thinks that it is not only the privilege but the duty of any citizen acting in good faith and on reasonable grounds to report all suspected cases that examination may be made by experts and the public health thereby protected This court holds that this may be done without being subjected to liability for damages. To hold otherwise would not only invite indifference at the expense of society, but the fear of liability would well-nigh destroy the efforts of officials to protect the public health. The report of the defendant to the health department might be likened to communications classified as qualifiedly privileged in libel and slander cases.

The chief diagnostician was charged with negligence in that, in wanton disregard of his duties as an officer and of the danger to which the plaintiff was exposed, he wantonly and recklessly pronounced her suffering from smallpox and committed her to the hospital. For the jury to return a verdict for him it was not necessary for it to find that the plaintiff did have smallpox. All that it was required to find was that he had reasonable grounds so to believe. If he had reasonable grounds so to believe, he could not have acted wantonly and recklessly. An instruction required the jury to find that he had reasonable grounds to believe that the preservation of the public health required that she be quarantined to prevent other persons from becoming infected with smallpox. This, in effect, required the jury to find that he had reasonable grounds to believe that she had smallpox. In so instructing, the court did not assume that the plaintiff had smallpox.

Releases Made on Erroneous Statements of Physicians

(Granger vs. Chicago, M. & St. P. Ry. Co. (Wis.), 215 N. W. R. 576)

The Supreme Court of Wisconsin, in affirming a judgment in favor of the plaintiff for damages for personal injuries, says that, six months after the injury and at a time when the plaintiff was still undergoing treatment which caused him to suffer severe pain, he was given a draft for $500 and signed a release of all claims which he then had or might thereafter have against the defendant for the injuries. The company had paid all medical and hospital bills, and by this settlement it paid the plaintiff the full amount of wages which he would have earned if he had not met with the accidental injury. Both the plaintiff and the claim agent had been informed by the physician employed by the company to treat the plaintiff that his condition was such that he was able to resume light work. The situation was one in which both parties in good faith relied on the statement of the physician. But it would be against good conscience and all rules of fair dealing to hold that the plaintiff, who was in such a serious physical condition that the railway company did not question that $12,000 was a fair measure of the damages sustained by the plaintiff because of his injury, was bound by a settlement made when both parties were acting under a mutual mistake of fact as to the extent of the plaintiff's injury and the duration of his disability. It would be most inequitable and unjust to hold the release binding under such circumstances. Under such circumstances the plaintiff ought in justice and equity to be relieved from the release because of his reliance on the advice given by the physician. The statement made by the physician as to the condition of the plaintiff and his prospects of recovery was not a mere expression of opinion as to future events. It was a representation as to existing facts on which both the plaintiff and the company had the right to rely. While there is a conflict in the decisions, this court believes that the greater weight of authority, as well as the sounder logic, supports the rule that a release will be voided on the ground of mistake of fact when the physician gave the advice in good faith believing it to be true, as well as when he acted in bad faith for the purpose of inducing a settlement.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Birmingham, April 17-20. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Secretary.

American Association for Thoracic Surgery, Washington, D. C., April 30-May 2. Dr. Ethan Flagg Butler, Sayre, Pa., Secretary.

American Association of Genito-Urinary Surgeons, Washington, D. C., April 30-May 2. Dr. H. L. Kretschmer, 122 S. Michigan Avenue, Chicago, Secretary.

American Association of Pathologists and Bacteriologists, Washington, D. C., May 1-2. Dr. H. T. Karsner, 2109 Adelbert Road, Cleveland, Secretary.

American Bronchoscopic Society, Washington, D. C., April 30. Dr. Louis H. Clerf, 128 South 10th Street, Philadelphia, Secretary.

American Climatological and Clinical Association, Washington, D. C., May 1-2. Dr. A. K. Stone, Auburn Street, Framingham Center, Mass., Secretary.

American Dermatological Association, Washington, D. C. April 30-May 2. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Gastro-Enterological Association, Washington, D. C., April 30-May 1. Dr. W. J. Mallory, 1720 Connecticut Avenue, N. W., Washington, D. C., Secretary.

American Gynecological Society, Washington, D. C., April 30-May 2. Dr. Floyd E. Keene, Medical Arts Building, Philadelphia, Secretary.

American Laryngological Association, Washington, D. C., May 1-3. Dr. G. M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Washington, D. C., May 3-5. Dr. R. L. Loughran, 33 East 63d Street, New York, Secretary.

American Neurological Association, Washington, D. C., May 1-3. Dr. Henry A. Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Washington, D. C., April 30-May 2. Dr. Emory Hill, Professional Building, Richmond, Va., Secretary.

American Otological Society, Washington, D. C., April 30-May 1. Dr. T. J. Harris, 104 East 40th Street, New York, Secretary.

American Pediatric Society, Washington, D. C., April 30-May 2. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Pharmacological Society, Ann Arbor, Mich., April 12-14. Dr. E. D. Brown, University of Minnesota, Minneapolis, Secretary.

American Physiological Society, Ann Arbor, Mich., April 12-14. Dr. W. J. Meek, Science Hall, University of Wisconsin, Madison, Secretary.

American Society of Biological Chemistry, Ann Arbor, Mich., April 12-14. Dr. D. W. Wilson, University of Pennsylvania Medical School, Philadelphia, Secretary.

American Society of Clinical Investigation, Washington, D. C., April 30. Dr. J. T. Wearn, Boston City Hospital, Boston, Secretary.

American Society of Tropical Medicine, Washington, D. C., May 1-2. Dr. Benjamin Schwartz, P. O. Box 131, Pennsylvania Avenue Station, Washington, D. C., Secretary.

American Surgical Association, Washington, D. C., April 30-May 2. Dr. Lincoln Davis, 205 Beacon Street, Boston, Secretary.

Arizona State Medical Association, Tucson, April 19-21. Dr. D. F. Harbridge, Goodrich Building, Phoenix, Secretary.

Arkansas Medical Society, El Dorado, May 1-3. Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Association of American Physicians, Washington, D. C., May 1-3. Dr. J. H. Means, Massachusetts General Hospital, Boston, Secretary.

California Medical Association, Sacramento, April 30-May 3. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.

Congress of Physicians and Surgeons of North America, Washington, D. C., May 1-2. Dr. W. R. Steiner, 646 Asylum Avenue, Hartford, Conn., Secretary.

Connecticut State Medical Society, Bridgeport, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Federation of American Societies for Experimental Biology, Ann Arbor, Mich., April 12-14. Dr. E. D. Brown, University of Minnesota, Minneapolis, Secretary.

Georgia, Medical Association of, Savannah, May 9-11. Dr. A. H. Bunce, 139 Forrest Avenue, N. E., Atlanta, Secretary.

Illinois State Medical Society, Chicago, May 8-11. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Cedar Rapids, May 9-11. Dr. Tom B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Wichita, May 8-10. Dr. J. F. Hassig, 804 Huron Building, Kansas City, Secretary.

Louisiana State Medical Society, Baton Rouge, April 10-12. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 24-26. Dr. John T. King, Jr., 1211 Cathedral Street, Baltimore, Secretary.

Mississippi State Medical Association, Meridian, May 8-10. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Columbia, May 14-17. Dr. E. J. Goodwin, 634 N. Grand Boulevard, St. Louis, Secretary.

Nebraska State Medical Association, Hastings, May 15-17. Dr. R. B. Adams, Center McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 15-16. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Mexico Medical Society, Albuquerque, May 10-11. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

New York, Medical Society of the State of, Albany, May 21-24. Dr. D. S. Dougherty, 2 East 103d Street, New York, Secretary.

North Carolina, Medical Society of the State of, Pinehurst, April 30-May 2. Dr. L. B. McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Devils Lake, May 23-24. Dr. J. G. Lamont, San Haven, Secretary.

Ohio State Medical Association, Cincinnati, May 1-3. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.

Oklahoma State Medical Association, Tulsa, May 17-19. Dr. C. A. Thompson, 609 Barnes Building, Muskogee, Secretary.

Pacific Coast Oto-Ophthalmological Society, Santa Barbara, April 18-20. Dr. Walter F. Hoffman, 817 Summit Avenue, Seattle, Secretary.
South Carolina Medical Association, Columbia, April 17-19. Dr. E. A. Hines, Seneca, Secretary.
Tennessee State Medical Association, Nashville, April 10-12. Dr. H. H. Shoulders, Lambuth Building, Nashville, Secretary.
Texas, State Medical Association of, Galveston, May 8-10. Dr. Holman Taylor, Medical Arts Building, Fort Worth, Secretary.
West Virginia State Medical Association, Fairmont, May 21-24. Mr. Joe W. Savage, 303 Professional Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

3: 253-380 (Feb.) 1928

*Therapeutic Value of Quinidine in Coronary Thrombosis Complicated by Ventricular Tachycardia. S. A. Levine and W. B. Stevens, Boston.—p. 253.
Anatomic Studies on Coronary Arteries and Their Branches: I. Arteria Anastomotica Auricularis Magna. M. A. Kugel, New York.—p. 260.
*Epidemic of Rheumatism at Cardiac Camp. R. I. Hiller and I. Graef, Chicago.—p. 271.
*Experimental Myocarditis. S. Johnson and W. J. Siebert, St. Louis.—p. 279.
*Chest Clinics in Iowa. M. M. Myers and J. H. Peck, Des Moines.—p. 287.
*Heart Disease and Disorders in New England. P. D. White, Boston, and T. D. Jones, University, Va.—p. 302.
*Supraventricular Paroxysmal Tachycardia with Varying Site of Stimulus Origin. J. H. Crawford, New York.—p. 319.
*Treatment of Transient Ventricular Standstill with Barium Chloride. S. Strauss and J. Meyer, Chicago.—p. 328.
Aneurysm of Left Ventricle. E. M. Medlar and W. S. Middleton, Madison, Wis.—p. 346.
*Systolic Blood Pressure in Cardiac Decompensation and During Compensation. J. Meyer and T. F. Mullen, Chicago.—p. 356.
Pulse Rate Studies with Pulse Resonator. G. Nemet and E. P. Boas, New York.—p. 360.
Paroxysmal Tachycardia with Unusually Rapid Heart Rate in Boy of 14 Years. R. W. Langley, Los Angeles.—p. 368.

Quinidine in Coronary Thrombosis.—Levine and Stevens report a case of coronary thrombosis in which a persistent ventricular tachycardia developed with a heart rate of 200. This lasted for several days, and the clinical condition seemed desperate. Quinidine sulphate in extremely large doses proved successful in restoring the heart to a normal rhythm. It was only after 1.5 Gm. was given five times a day that the normal rhythm was maintained. Considerable aid was obtained from taking frequent electrocardiograms, for when the dose of 1.2 Gm. of quinidine sulphate had been reached, the heart tracing showed that a partial effect had been already obtained.

Epidemic of Rheumatism in Cardiac Camp.—Ten cases of rheumatism, one of chorea, and one of acute tonsillitis occurred within a short period in a group of children at a cardiac camp. Although the weather undoubtedly played a part in their incidence, Hiller and Graef feel that communicability was also a factor.

Experimental Myocarditis.—One single injection of 0.025 Gm. of caffeine sodium benzoate with 0.2 cc. of epinephrine caused myocarditic lesions in practically all of the forty-seven rabbits used by Johnson and Siebert. The most frequent site of this lesion was in the papillary muscles of the left ventricle. Next in frequency were the myocardium of the left ventricle at the upper half of the anterior aspect, which in some cases encroaches on the myocardium of the left auricle; then the upper half of the posterior aspect of the left ventricle.

Chest Clinics in Iowa.—A report is made by Myers and Peck on the heart and lung clinics conducted in Iowa for two years, which includes a classification of diagnoses, the structural changes found in patients with rheumatic hearts, and a discussion of the important criteria for diagnosis.

Heart Disease in New England.—An analysis made by White and Jones of 3,000 patients in New England seeking medical advice for cardiac symptoms or signs in the past few years has shown that four-fifths, 80.7 per cent, had organic heart disease, if one includes cases with uncomplicated angina pectoris (2.6 per cent) and uncomplicated auricular fibrillation (1.0 per cent). One-fifth (19.3 per cent) had relatively unimportant functional circulatory abnormalities. In the group of 2,421 cases of organic heart disease, including the patients with uncomplicated angina pectoris (seventy-seven) and uncomplicated auricular fibrillation (thirty), the etiologic factors apparently present, both alone and complicated, were found to be as follows in the order of frequency: "rheumatic," 956 cases; arteriosclerotic, 864 cases; hypertensive, 708 cases; angina pectoris, 353 cases; syphilitic, ninety-five cases; coronary occlusion, seventy-one cases; hyperthyroid, sixty-eight cases; subacute bacterial endocarditis, forty-five cases; congenital, thirty-seven cases; miscellaneous, fifty-one cases; unknown (including thirty cases of uncomplicated auricular fibrillation), eighty-two cases. Frequently two and sometimes three of these etiologic factors appeared to be combined in the same case. Auricular fibrillation occurred altogether in 376 cases, thirty times apparently uncomplicated. In sixty-seven patients it was paroxysmal and in 309 permanent in type. Auricular flutter was found in only six patients. Auriculoventricular heart block was found in fifty-nine patients; intraventricular block, in fifty-two. Alternation of the pulse was noted in only forty patients, all with serious organic heart disease. One of the most important objects and results of this study has been the comparison of the three different groups; namely, that of 1,000 cases from private consultation practice; that of 1,000 cases from the hospital and dispensary, and finally that of 1,000 cases from general practice. Patients with organic heart disease were more common in the hospital group than in private practice; patients with relatively unimportant functional cardiovascular disturbances much more frequently consulted the specialist, perhaps because they were better able to do so. Also, angina pectoris was found much more frequently in private practice. On the other hand, rheumatic heart disease was much more common in the hospital and dispensary group than in private practice. The syphilitic factor was present more often in the hospital class. Arteriosclerosis as a factor was more frequent in private than in hospital practice. Hypertension as a factor was frequent in all groups.

Supraventricular Paroxysmal Tachycardia.—Attacks of paroxysmal tachycardia of supraventricular origin are described by Crawford as occurring in an otherwise normal person. During these attacks the site of impulse formation appeared to change. It is suggested that the heart was under the control of the sino-auricular node for a short period at the beginning of the attack, but that later it responded to the lower part of the auriculoventricular node. The site of stimulus production gradually moved to a higher level in this node as the paroxysm continued. The attacks could be terminated by a deep breath. This patient showed the same response to atropine that normal subjects did, while epinephrine produced nodal rhythm.

Treatment of Transient Ventricular Standstill with Barium Chloride.—In the case reported by Strauss and Meyer, barium chloride administered early in the course of the disease, even in as small daily amounts as 120 mg., was sufficient to prevent an attack for a period of twenty-five days. The continued administration of barium chloride, 40 mg. three times a day, resulted in complete restoration of normal sinus rhythm for ten months and was not associated with any deleterious effects. Epinephrine injected subcutaneously did not give permanent relief. Atropine did not relieve or check the syncopal attacks, except in two instances just before death. The administration of potassium iodide in small doses seemed to aggravate the frequency of attacks. The studies pursued would indicate that the etiologic factor in this case was associated with a depression of irritability of the ventricle, and that the vagus, apparently through stimulation via the gastrointestinal tract, also played a rôle. The patient died without developing complete heart block. The authors believe that

the lesion was in the ventricle below the bundle of His, possibly at the junction of the Purkinje fibers and the ventricular muscle.

Systolic Blood Pressure in Cardiac Decompensation.—Meyer and Mullen studied thirty-five patients with severe cardiac decompensation. All showed signs, such as edema, dyspnea, and varying degrees of cyanosis. The treatment received was rest in bed, digitalis and opium when indicated. In sixteen, the systolic blood pressure fell from 10 to 40 mm., as compensation became established. Of these, fifteen were improved and discharged; death occurred in only one patient in whom the blood pressure fell. In twelve patients the systolic blood pressure remained unchanged. Of these, nine improved and were discharged, and three died. In five patients, the blood pressure was increased as compensation occurred, and of these, three died and the remaining two were improved. In two instances there was a definite fall in blood pressure as compensation occurred, but the blood pressure rose to that on admission before the patient left the hospital. The authors observed this fall in cases of aortic regurgitation, mitral regurgitation, chronic myocarditis, emphysema, and chronic nephritis.

American Journal of Ophthalmology, Chicago

11: 91-186 (Feb.) 1928

Angioid Streaks of Fundus Oculi. F. P. Calhoun, Atlanta, Ga.—p. 91.
Angioid Streaks of Retina. J. M. Griscom, Philadelphia.—p. 95.
Features of Glaucoma Complicating Iridocyclitis. F. T. Tooke, Montreal. —p. 97.
Posterior Sclerotomy for Glaucoma. H. Friedenwald, Baltimore.—p. 107.
Retroconjunctival Posterior Sclerotomy in Glaucoma Complicated by Corneal or Conjunctival Infection. J. S. Friedenwald, Baltimore.—p. 111.
Relation of Ophthalmology to Prevention of Blindness. E. Jackson, Denver.—p. 112.
Sight-Saving Class Work from Standpoint of Ophthalmologist. E. V. L. Brown, Chicago.—p. 118.
Cycloplegics in Refraction. D. W. Wells, Boston.—p. 120.
Pathology of Lacrimal Glands in Chronic Epiphora. M. N. Beigelman, Los Angeles.—p. 125.
Congenital Bilateral Microphthalmos Accompanied by Other Malformations of Body. A. M. Yudkin, New Haven, Conn.—p. 128.

Am. J. Roentgenology & Radium Therapy, New York

19: 101-202 (Feb.) 1928

Colon Studies: V. High Cecum. J. L. Kantor and S. Schechter, New York.—p. 101.
*Roentgen-Ray Diagnosis of Infantile Scurvy. R. S. Bromer, Philadelphia. —p. 112.
Roentgenologic Manifestations of Primary Carcinoma of Lung: II. Bronchial Type. B. R. Kirklin and R. Paterson, Rochester, Minn. —p. 126.
*Therapeutic Abortion Induced by Roentgen Ray. S. Stern, New York. —p. 133.
Radium Therapy in Tuberculous Cervical Adenitis. G. A. Robinson, New York.—p. 140.
Physical and Biologic Problems in Heliotherapy: II. Measuring Device for Ultraviolet Radiation. E. A. Pohle and W. S. Huxford, Ann Arbor, Mich.—p. 144.
Radiosensitiveness of Malignant Tissue and Its Biologic Significance. M. J. Sittenfield, New York.—p. 150.
Apparatus for Making Roentgenographic Examinations of Head. W. F. Manges, Philadelphia.—p. 166.
Roentgenographic Measurement of Objects by Means of Specially Constructed Standardized Screens Interposed Between Object and Film. G. W. Wagoner, Haverford, Pa.—p. 170.

Roentgen-Ray Diagnosis of Infantile Scurvy.—Contrary to the belief held by some and the statement made in textbooks, Bromer asserts that the diagnosis of scurvy on the roentgenogram in its well developed stages is not difficult. The disease process shows four roentgenographic stages. The first is the most important in that it is possible to diagnose this early stage of the disease on the roentgenogram when the clinical diagnosis is uncertain. The fourth or healing stage may show characteristic signs even though in some cases five years may have passed since the onset of the disease. The terms of the present nomenclature, as white line, scurvy line, Trümmerfeldzone, are held to be very confusing. Such terms as broadened zone of preparatory calcification and framework marrow zone typify the histologic changes that take place in the course of the disease, and when applied to the roentgenographic changes do not admit of any confusion.

Therapeutic Abortion Induced by Roentgen Ray.—An experience with thirty-one cases of therapeutic abortion induced by roentgen-ray irradiation has convinced Stern that the procedure is of great value, especially in cases in which surgical intervention would be connected with danger to the patient. It is of especial value in cases in which a temporary or a permanent castration is desirable. The treatment properly applied is without danger to the patient.

American Review of Tuberculosis, Baltimore

17: 103-200 (Feb.) 1928

Innate Resistance to Tuberculosis. C. T. Ryder, Colorado Springs.—p. 103.
*Relationship Between Pregnancy and Tuberculosis. A. M. Hill, New York.—p. 113.
Tuberculous Nature of Pleurisy from Life Insurance Standpoint. H. B. Anderson, Toronto.—p. 147.
*Electrocardiographic Studies in Pulmonary Tuberculosis: 250 Cases. S. Simon and F. Baum, Denver.—p. 159.
Hernia of Lung: Spontaneous Case. F. J. Smith and B. I. Johnstone, Detroit.—p. 182.
Fate of Human and Avian Tubercle Bacilli in Liver of Birds. J. C. Rogers, Chicago.—p. 192.

Relationship Between Pregnancy and Tuberculosis.—A careful study of available data bearing on the effect of pregnancy on tuberculosis leads Hill to the conclusion that pregnancy does not have any appreciable bearing on the progress of tuberculosis. In the belief that a better picture of the relation between pregnancy and tuberculosis might be obtained if histories were to be taken with both these conditions in mind concurrently with the progress of the case, a new plan of research has been evolved by Hill in which it is hoped a considerable number of physicians will be sufficiently interested to cooperate. The scheme is for each physician interested to fill out as fully as possible a uniform record form for each and every tuberculous married woman coming under his care, entering on the form as time goes on any change in her condition, and when the case has been closed for the physician to send the completed record to the National Tuberculosis Association.

Electrocardiographic Study of Pulmonary Tuberculosis.—An electrocardiographic study of 250 cases of pulmonary tuberculosis has convinced Simon and Baum that the electrocardiogram seems to be of great value in pulmonary tuberculosis, giving information in regard to the heart not otherwise obtainable with the same accuracy. The diagnosis of cardiac lesions combined with pulmonary tuberculosis is simplified by the use of the electrocardiograph. Collapse treatment does not always influence the electrocardiographic picture. A right ventricular predominance (right axis deviation) was present in 10 per cent of the 250 cases studied. A left ventricular predominance was also present in 10 per cent of these cases. An inverted T wave in two leads was seen only in cases in which the prognosis was doubtful or unfavorable.

Archives of Internal Medicine, Chicago

41: 141-294 (Feb.) 1928

*Syndrome of Malignant Hypertension. N. M. Keith, H. P. Wagener and J. W. Kernohan, Rochester, Minn.—p. 141.
Bacteriophagy in Urinary Infections Following Administration of Bacteriophage Therapeutically. J. A. Caldwell, Dallas, Texas.—p. 189.
*Congenital Malformations of Gallbladder. S. Levine, New York.—p. 198.
Elective Localization of Streptococci Isolated from Cases of Peptic Ulcer. A. C. Nickel and A. R. Hufford, Rochester, Minn.—p. 210.
*Sublingual Absorption of Drugs: Morphine. D. Davis and D. Ayman, Boston.—p. 231.
*Chemical Changes in Blood in Mercuric Chloride Poisoning: Hypochloremia. H. M. Trusler, W. S. Fisher and C. L. Richardson, Indianapolis.—p. 234.
Influence of Alkalis on Secretion and Composition of Gastric Juice: III. Effect of Sodium Bicarbonate on Gastric Response to Histamine. T. E. Boyd, Chicago.—p. 244.
*Auscultatory Gap in Sphygmomanometry. S. G. Mudd and P. D. White, Boston.—p. 249.
Effect of Toxemia on Tolerance for Dextrose. J. S. Sweeney and R. W. Lackey, Dallas, Texas.—p. 257.
*Hypertensive Encephalopathy. B. S. Oppenheimer and A. M. Fishberg, New York.—p. 264.
*Influence of Posture on Phenolsulphonphthalein Test for Kidney Function. N. Cordero and M. H. Friedman, Chicago.—p. 279.

Syndrome of Malignant Hypertension.—Keith et al. assert that in cases of sustained high blood pressure and diffuse change in the arterioles, the course of the disease is usually rapidly fatal. The terminal clinical picture suggests simultaneous rapid functional failure of the brain, heart and kid-

neys. This hypertension syndrome can often be distinguished from benign hypertension and chronic glomerulonephritis. The chief points of distinction from the latter are the age incidence, the characteristic retinal picture, the absence of anemia, and the frequent adequacy of renal excretion. The characteristic histologic observation is diffuse general hypertrophy of the arterioles.

Congenital Malformation of Gallbladder.—Three anomalous gallbladders, most likely of congenital origin, are described by Levine. They were: Hour-glass gallbladder, which was most likely of congenital origin; gallbladder resembling a "Phrygian cap," which was associated with hyperthyroidism, menstrual irregularity and sterility and was therefore considered part of a general constitutional disturbance; rudimentary gallbladder, which answered the description of Berg's "gallbladder of rudimentary morphology." In this patient the gallbladder also conforms to that variety of abnormal development known as the "thymic type."

Sublingual Absorption of Drugs.—The absorption capacity of the sublingual mucous membrane was studied by Davis and Ayman by introducing a known amount of morphine sulphate beneath the tongue, and later analyzing the contents of the mouth to determine the exact amount of drug unabsorbed. The results of these studies show that morphine sulphate, in the form ordinarily administered, is not appreciably absorbed by the sublingual mucous membrane. The results with morphine sulphate, which is readily soluble in water and quickly absorbed from gastro-intestinal and rectal mucous membranes, suggest that allied drugs are also little absorbed by the sublingual membrane.

Chemical Changes in Blood in Mercuric Chloride Poisoning.—Trusler et al. assert that hypochloremia should be an important consideration in mercury poisoning. Dogs poisoned by intravenous injections of mercuric chloride suffer a marked reduction in the sodium chloride of the blood, owing to loss of chlorides through vomiting. This hypochloremia, though associated with a relative acidosis, produces gastric tetany. The tetany, therefore, is not a symptom of alkalosis, but occurs in any condition of hypochloremia without direct relationship to the carbon dioxide combined in the plasma. Restoration of the blood chloride level relieves and prevents tetany but does not otherwise modify the course of mercury poisoning. There is some evidence that 2 per cent salt solution administered intravenously may be of value by forcing excretion from the kidney. In the human patient poisoned with mercury, the danger of a low level of blood chlorides should be borne in mind.

Auscultatory Gap in Sphygmomanometry.—The clinical importance of the auscultatory gap in sphygmomanometry is emphasized by Mudd and White because of the error that may be occasioned if the possibility of its occurrence is disregarded. Thirty cases are reported and analyzed. Hypertension was evident in twenty-eight patients (93 per cent) and aortic stenosis in four (13 per cent). Every case showed hypertension or aortic stenosis, or both (two cases). No definite prognostic significance is attached to the auscultatory gap, the outlook depending on the underlying pathologic condition in each case.

Hypertensive Encephalopathy.—The term hypertensive encephalopathy is proposed by Oppenheimer and Fishberg for the acute cerebral episodes occurring in hypertensive states. The hypertensive encephalopathy is not the result of impaired renal function, so the term acute uremia is a misnomer. Available evidence indicates strongly that the hypertensive encephalopathy is the result of cerebral anemia produced by cerebral vasoconstriction. The cerebral edema which is present in some, but not in all, of the cases is secondary to the vasoconstriction, though the exact mechanism of the connection is not clear. While the cerebral edema produces symptoms in some cases, it is not the essential cause of the hypertensive encephalopathy.

Influence of Posture on Phenolsulphonphthalein Test for Kidney Function.—Cordero and Friedman found that the elimination of phenolsulphonphthalein in normal persons is greater in the recumbent posture than during standing. The difference (from 10 to 13 per cent) though definite is not marked, but should be taken into account in making phenolsulphonphthalein tests in borderline cases. The possibility that the difference might be greater in cardiorenal disorders is pointed out. On the basis of fifty-seven experiments on two subjects, at intervals of at least five days, it is shown that the hypodermic route is not as unreliable as is generally believed when the two hour eliminations are taken into account. The absence of toxic effects during the eight months covered in these studies is offered as one more evidence of the harmlessness of phenolsulphonphthalein. There is no evidence of the development of any increased storage or increased destruction in the body during this frequent and long continued use. Slight modifications in the technic of renal function tests are suggested.

Archives of Pathology & Lab. Medicine, Chicago

5: 195-364 (Feb.) 1928

*Effects of High-Voltage Cathode Rays on Skin of Rat. V. C. Jacobson and K. C. Waddell, Albany, N. Y.—p. 195.
*Aneurysm of Renal Artery. H. A. Singer, Chicago.—p. 223.
*Sacrococcygeal Chordoblastoma. T. L. Ramsey, Toledo, Ohio.—p. 232.
Vitamin A Deficiency in Guinea-Pig. S. B. Wolbach and P. R. Howe, Boston.—p. 239.
*Calcification of Liver. F. Harbitz, Oslo, Norway.—p. 254.
*Cystadenoma of Pancreas. W. C. Hueper, Chicago.—p. 261.
Polymorphonuclear Neutrophils in Blood in Lymphadenopathies: Relation to Classification and Radiation Treatment. H. Fox, Philadelphia.—p. 267.
Quick Celloidin Method for Preparing Tissues. B. W. Rhamy, Fort Wayne, Ind.—p. 282.
Method for Staining Reticulum. E. M. Kinney, Chicago.—p. 283.
Pathologic Anatomy of Influenza. E. L. Opie, Philadelphia.—p. 285.

Effect of High-Voltage Cathode Rays on Skin.—A study was made by Jacobson and Waddell of the biologic action of cathode rays on the skin of the white rat, the new Coolidge tube, a modification of the Lenard tube, being used. The intensity of the reaction of the skin varied according to the voltage and the length of exposure to the cathode rays. As the cathode rays produce hyaline fusion of the collagen of the corium, and since the characteristic lesion of roentgen-ray injury is a similar collagen degeneration, the evidence seems conclusive that the biologic effects heretofore attributed to roentgen rays are not due to roentgen rays, but to the cathode rays which they produce in the tissues.

Aneurysm of Renal Artery.—Two cases of aneurysm of the renal artery are recorded by Singer, in each of which the genesis of the underlying pathologic process was brought to light by histologic studies. In the first instance, the primary lesion apparently was a degenerative change of nonspecific character, involving the media and causing a weakening of the vessel wall. The evidence in the second case favored the assumption that the renal artery was eroded by an inflammation which had its seat in the fat at the hilum of the kidney. It is Singer's belief that the rôle of trauma is the most important one in the causation of aneurysm of the renal artery, being the responsible agent in approximately 50 per cent of the reported cases. The nature of the injury which may be subcutaneous or perforating varies in degree of severity between wide limits. An insignificant trauma, as a sudden forceful bodily movement, can act as a causa efficiens.

Sacrococcygeal Chordoblastoma.—A case of malignant sacrococcygeal chordoblastoma developing in a woman, aged 66, is reported by Ramsey. Death resulted after five years, during which extensive ulceration took place.

Calcification of Liver.—A case of malignant lymphogranulomatosis in a boy, aged 16, with extensive calcification in the liver, is described by Harbitz. The cause of the calcification remains obscure, and the need of chemical examination of the blood during life in cases of abnormal calcification is emphasized.

Cystadenoma of Pancreas.—The cystadenoma in this case is regarded by Hueper as primary and the inflammatory changes in the adjacent pancreatic tissue as secondary as a result of the pressure of the tumor on the ducts, with obstruction and cystic distention. A correct preoperative diagnosis was not made, because the tumor had caused a hydronephrosis by pressure on the ureter.

Archives of Physical Therapy, X-Ray, Radium, Omaha

9: 49-95 (Feb.) 1928

Treatment of Sinus Infections by Physical Agents. F. T. Woodbury, New York.—p. 49.
Influence of Temperature on Biologic Action of Roentgen Rays. A. Dognon, Strasbourg, France.—p. 55.
Roentgen-Ray Treatment of Uterine Hemorrhage. J. A. H. Webb, Wichita, Kan.—p. 60.
High Frequency Currents in General Practice. D. F. Knotts, Chicago. —p. 65.
Diathermal Penetration from Clinician's Standpoint. H. D. Holman, Mason City, Iowa.—p. 71.
Diathermy in Treatment of Gonorrheal Infections in Male. E. B. Perry, Chicago.—p. 74.

Arkansas Medical Society Journal, Little Rock

24: 167-187 (Feb.) 1928

Treatment of Epididymitis. H. K. Wade, Hot Springs.—p. 167.
Electrotherapy in Treatment of Vomiting of Pregnancy. T. H. Jones, Magnolia.—p. 169.

Atlantic Medical Journal, Harrisburg, Pa.

31: 283-358 (Feb.) 1928

Postpneumonic Interlobar Empyema. G. W. Norris and D. R. Bowen, Philadelphia.—p. 283.
Postoperative Pulmonary Atelectasis. W. E. Lee and G. Tucker, Philadelphia.—p. 284.
*Changes in Serum Salt Concentration in Blood During Lobar Pneumonia: Relation to Therapy. F. W. Sunderman and J. H. Austin, Philadelphia.—p. 294.
Mastoiditis in Infants. J. H. McCready, Pittsburgh.—p. 296.
Hemorrhagic Disease of New-Born. J. F. Coppolino, Philadelphia.—p. 300.
*Value of Early Treatment in Syphilis of New-Born. E. D. Atlee, Philadelphia.—p. 302.
Feeding Schedules for Maternity Nurseries. R. M. Tyson, Philadelphia. —p. 304.
Tuberculosis in General Practice. W. P. Brown, Philadelphia.—p. 308.
Stricture of Ureter Associated with Syphilis. S. J. Roberts, Harrisburg. —p. 310.
Urinary Obstruction Caused by Distended Sigmoid Associated with Imperforate Anus. E. H. Adams, Danville, Pa.—p. 311.
Chronic Endocarditis. J. W. Boyce, Pittsburgh.—p. 312.
Pulmonary Abscess. J. S. Crawford, Pittsburgh.—p. 313.
Acute Pancreatitis Hemorrhagica. A. R. Garner, Norristown, Pa.—p. 314.
Pancreatic Cyst. H. Klinzing, Pittsburgh.—p. 315.

Blood Serum-Salt Concentration in Pneumonia.—Sunderman and Austin assert that the total electrolyte concentration in the blood serum of patients with lobar pneumonia is decreased during the active infection and tends to become normal after the crisis, the chlorides reaching the normal level more slowly than the total electrolytes. This lowered concentration of salts in the blood serum at the very time when there is a retention of chloride, as indicated by the diminished salt excretion through the kidneys, points out a disturbance in the salt equilibrium between the tissue and the blood serum in pneumonia which is of importance in the pathologic physiology of pneumonia. The oral administration of excessive quantities of sodium chloride in six cases of lobar pneumonia did not alter the course of the electrolyte distribution in this infection.

Early Treatment of Syphilis of New-Born.—At the Philadelphia Lying-In Hospital, all babies with positive cord Wassermann reactions born of mothers with positive blood Wassermann reactions are treated immediately after birth. Of 1,646 babies seen by Atlee, 192 had positive reports from the mother's blood, the cord blood, or both, 95 per cent being negroes. In 111 cases, the blood of both the child and the mother showed positive Wassermann reactions. In the remaining eighty-one cases there were thirty-nine negative cord reactions with positive Wassermann reactions in the mothers. A few of these mothers had had treatment during the prenatal period. This suggests that a syphilitic mother may occasionally have a healthy child, supporting Profeta's law. Seventy-six babies received treatment while in the hospital, and fifty-two of these have had time to complete the first course of injections. Six of the fifty-two died while receiving treatment, five of intercurrent infection and one by accident. These fifty-two children received 443 injections in all, or an average of about nine injections each. None of those who remained under observation developed any symptoms of syphilis, and in all those who had symptoms at birth these had cleared up by the fifth or sixth treatment, with one exception, an infant who had a hemorrhage from the cord as it dropped off on the eighth day. The method of treatment is the one used by Sherwood; namely, four weekly injections of mercuric chloride, followed by six weekly injections of arsenic, using sulpharsphenamine, and ending with four more injections of mercury. A month's rest is followed by a Wassermann test. If this is positive, the course is repeated until it becomes negative. If it is negative, four weekly injections of arsenic at bimonthly intervals are given, a second Wassermann test being made at the end of a year.

Boston Medical and Surgical Journal

197: 1487-1536 (Feb. 9) 1928

Efficiency and Limitations of Cholecystography. B. R. Kirklin, Rochester, Minn.—p. 1487.
Hilum of Lung. W. W. Wasson, Denver.—p. 1493.
Important Considerations of Electrosurgery. G. E. Ward, Baltimore. —p. 1502.
Comparative Efficiency of Sources of Radiation Used in Therapy. W. T. Bovie, Chicago.—p. 1509.
*Wassermann Reaction in Jaundice. D. Davis and N. Sidel, Boston.—p. 1516.
Present Resources for Handling Tuberculosis in Massachusetts. G. H. Bigelow, Boston.—p. 1517.

Wassermann Reaction in Jaundice.—One hundred and two records of unselected patients showing jaundice were reviewed by Davis and Sidel to determine the influence of jaundice on the Wassermann reaction. In this series, twenty showed a positive Wassermann reaction. In this positive group, seventeen showed definite or probable syphilis by the history or physical signs. Only three of the positive group were negative as to a history or physical signs of syphilis. Jaundice, per se, does not cause a falsely positive Wassermann reaction. It is suggested that syphilitic hepatitis should be strongly considered when there is positive serology in so-called acute catarrhal jaundice.

Canadian Medical Association Journal, Montreal

18: 1-134 (Jan.) 1928

Surgical Treatment of Pulmonary Tuberculosis. E. Archibald, Montreal. —p. 3.
Tuberculous Empyema. R. Janes, Toronto.—p. 10.
Infections of Hand. L. H. McKim, Montreal.—p. 17.
*Hyperkeratosis of Esophagus. F. N. G. Starr, Toronto.—p. 22.
Carcinoma of Stomach. R. R. Graham, Toronto.—p. 25.
Disabilities of Shoulder Region. A. Gibson, Winnipeg.—p. 30.
Use and Interpretation of Blood Chemistry by General Practitioner. E. H. Mason, Montreal.—p. 34.
Intestinal Obstruction. R. V. B. Shier, Toronto.—p. 40.
Salyrgan as Diuretic. G. H. Agnew, Toronto.—p. 45.
Oxygen Therapy in Pneumonia. D. Prendergast, Toronto.—p. 49.
*Glucose Intravenously in Treatment of Pneumonia. R. Lynch, Pittsburgh, and B. Webster, Montreal.—p. 52.
Relation of Sinus Infections to Respiratory Disease. R. W. Knight, Brantford, Ont.—p. 54.
Removal of Sixty-Five Pound Fibroid. E. S. Hicks, Brantford, Ont. —p. 58.
Case of Sympathetic Ophthalmia Observed Over Period of Six Years. S. H. McKee, Montreal.—p. 59.
*Rodent Ulcer, or Basal Cell Carcinoma of Head. B. A. Brown, Oshawa, Ont.—p. 60.
Recent Results in Retinal Detachment from Internal Use of Iodine. R. Kerry, Montreal.—p. 62.
Treatment of Case of Cyclo-Iritis Following Senile Cataract Extraction. G. H. Burnham, Toronto.—p. 63.
Inheritance of Blood Groups and Its Medicolegal Application. T. R. Waugh, Montreal.—p. 64.

Hyperkeratosis of Esophagus.—Starr reports the case of a woman, aged 47, who had difficulty in swallowing, and regurgitation of food immediately after swallowing, the food coming up unchanged. There was great lassitude, and she was tired all the time. She had lost much weight. The roentgen ray showed an almost complete obstruction, only a trace of barium trickling through the lower 2 inches of the esophagus. The esophagoscope revealed near the lower end of the esophagus a mass resembling in appearance a papilloma. This was snipped off and a small bougie passed through comfortably and easily. The dilatation was repeated from month to month for about a year, and she has continued well and regained her weight and strength. Two other similar cases are cited. The pathologist made a diagnosis of hyperkeratosis.

Dextrose Treatment of Pneumonia.—Lynch and Webster attempted to determine the value of dextrose in the treatment of lobar pneumonia. It was contrasted with digitalis. There

were eleven cases in each group. The patients in the dextrose series were given an intravenous injection of 250 cc. of warm 20 per cent dextrose-saline solution, daily in the mild cases and twice daily in the severe ones. It was continued until twenty-four hours after the crisis. The patients were also put on a diet of 3,600 calories, made up largely of dextrose combined with lime, lemon, or orange in the form of a drink. Meat broths supplied the protein and fat. In the digitalis series, an attempt was made to secure digitalization as soon after admission as possible. The patients were started immediately on a course of digitalein, a hypodermic injection of 1/50 grain (0.4 mg.) being given every four hours for six doses. At the same time they were given tincture of digitalis by mouth, 20 minims (1.2 cc.), every four hours, for six doses, though this was varied according to the weight of the patient. Once the digitalis effect was obtained, the patients were given enough, either by hypodermic or by mouth, to maintain it. In the dextrose group there were nine recoveries and two deaths. The mortality was 18.1 per cent. In the digitalis group there were seven recoveries and four deaths. The mortality was 36.3 per cent. No conclusions are drawn, as the number of cases studied was too small.

Rodent Ulcer of Head.—The most remarkable feature about Brown's case was the extensive sloughing and destruction of bone. It included the parietal bone well beyond the median sagittal suture line, and more than one half of the vertical portion of the frontal bone, involving the supra-orbital arch with its internal and external angular processes, and a portion of the ethmoid bone. There was exophthalmos and sloughing of the ocular tissue, the right eye being held in the distorted orbit by a secondary fibrosis. Consciousness and vision were retained up to within three days of death, when the vast pulsating exposure of dura mater perforated, and emitted a quantity of dark hemorrhagic purulent material, with apparent particles of brain tissue, and hemiplegia and deep coma ensued.

Georgia Medical Association Journal, Atlanta

17: 49-96 (Feb.) 1928

Present Status of Surgery of Stomach and Duodenum. T. Harrold, Macon.—p. 49.
Tetany Following Secondary Thyroidectomy. C. E. Waits, Atlanta.—p. 54.
Congenital Pyloric Stenosis in Adult Life. R. H. Chaney, Augusta.—p. 57.
Use of d'Arsonval Current in Removal of Tonsils. J. Buff, Atlanta.—p. 62.
Syphilodermas. H. Hailey, Atlanta.—p. 64.
Supracondyloid Fracture of Elbow. G. N. Coker, Canton.—p. 66.
Subdiaphragmatic Abscess: Prevention. L. W. Grove, Atlanta.—p. 69.
Chorio-Epithelioma: Case. W. P. Nicolson, Jr., Atlanta.—p. 74.
Phosphatic Index. G. Y. Moore, Cuthbert.—p. 77.
Diagnosis of Brain Tumors. J. C. Weaver, Atlanta.—p. 80.

Iowa State Medical Society Journal, Des Moines

28: 41-76 (Feb.) 1928

Chronic Empyema: Etiology and Treatment. H. L. Beye, Iowa City.—p. 41.
First Aid Station in Country. W. F. Amdor, Carbon.—p. 44.
Advantages of Barraquer Method in Immature and Hypermature Cataract. O. Wolfe, Marshalltown.—p. 49.
Diagnosis of Exophthalmic Goiter. S. F. Haines, Rochester, Minn.—p. 53.
Philosophy of Therapeutics. D. J. Glomset, Des Moines.—p. 56.
Use of Gold in Treatment of Tuberculosis. J. W. Kime, Fort Dodge.—p. 61.

Johns Hopkins Hospital Bulletin, Baltimore

42: 67-112 (Feb.) 1928

Development of Meninges in Amphibia. L. B. Flexner, Baltimore.—p. 67.
*Experimental Investigation into Effects of Asphyxia on Brain: Asphyxia Neonatorum. F. R. Ford, Baltimore.—p. 70.
Convulsions Produced by Wormwood. W. S. Muncie and A. J. Schneider, Baltimore.—p. 77.
*Historical Development of Procedure Termed Débridement: Pierre Joseph Desault. F. L. Reichert, Stanford University, Calif.—p. 93.

Effects of Asphyxia on Brain.—Ford was unable to produce brain lesions in cats and kittens by the employment of various types of experimental asphyxia. Cerebral lesions were not produced in two experiments with pure carbon monoxide, but when illuminating gas was used, the well known lesions were found. Hence, it seems probable that carbon monoxide alone is not responsible for the cerebral lesions which result from illuminating gas poisoning.

Historical Development of Débridement.—Reichert asserts that to Desault, the investigator, the observer, the teacher, the first to establish clinical instruction in surgery, belongs the honor of having introduced one of the greatest advances in war surgery—the mechanical disinfection of wounds, débridement.

Journal of Laboratory & Clin. Medicine, St. Louis

13: 405-510 (Feb.) 1928

*Pathology of Intestinal Tuberculosis. A. Blumberg, Oteen, N. C.—p. 405.
*Brain Structure and Blood Changes After Treatment in General Paralysis. A. M. Saunders, Dunning, Ill.—p. 413.
Atmospheric Pollen and Botanic Flora of East Shore of San Francisco Bay. A. H. Rowe, Oakland, Calif.—p. 416.
*Purpuric Smallpox. K. Ikeda, St. Paul.—p. 440.
Present State of Our Knowledge of Gingivitis. R. A. Keilty, Washington, D. C.—p. 451.
*Cultivation of Tubercle Bacilli. H. J. Corper and N. Uyei, Denver.—p. 469.
Vascular Injection in Pathology. E. Scott and R. A. Moore, Columbus, Ohio.—p. 481.
*Relative Diagnostic Value of Levinson Test and Glucose Content in Cerebrospinal Fluid. A. S. Giordano and M. Ableson, South Bend, Ind.—p. 489.
Lamotte-Wuth Bromide Comparator. W. A. Taylor, Baltimore.—p. 495.

Diagnosis of Intestinal Tuberculosis.—Blumberg stresses the difficulty of making a diagnosis of intestinal tuberculosis because of the absence of a distinctive clinical picture. The finding of tubercle bacilli in the stool rarely, if ever, confirms the existence of intestinal tuberculosis. There is no known clinical laboratory test by means of which a diagnosis of intestinal tuberculosis can be made.

Changes in Brain and Blood After Treatment in General Paralysis.—Saunders asserts that a shift to the right in the Arneth index was found in more than 80 per cent of 120 cases of general paralysis after the intravenous introduction of *Plasmodium malariae*, reaching its maximum after from six to twelve months.

Purpuric Smallpox.—Twelve hundred and seventy-six cases of smallpox were reported in Minneapolis during the twelve months ending Feb. 28, 1925, with 332 deaths, or a rate of 26 per cent. Ikeda reports that 480 cases came under hospital care during the same period with 219 deaths, or a rate of 44 per cent. Forty-eight cases, or 10 per cent of the total number of admissions, were diagnosed as purpuric smallpox, all of which terminated in death. Ikeda's report is based on the studies of these forty-eight clinical cases of purpuric smallpox, a large number of the skin lesions being obtained by postmortem biopsy and five complete necropsies, as well as on the similar studies of a large number of cases of pustular smallpox. He describes a blood picture which, while probably not specific, is sufficiently characteristic in every case of purpuric smallpox as to be considered of prime importance in its diagnosis and its differentiation from other purpurae.

Cultivation of Tubercle Bacilli.—Of the various reagents used for the primary isolation of tubercle bacilli from contaminated tuberculous materials, Corper and Uyei found sulphuric acid and hydrochloric acid superior to any other reagents tried, including sodium hydroxide, for destroying the undesirable contaminators present. Standard crystal violet or methyl violet of the American dyes was found serviceable in replacing the prewar Grübler's gentian violet, and in the same concentration, for preparing Petroff's gentian violet egg medium. Crystal violet potato cylinder medium is superior to gentian violet egg medium, Dorsett's egg medium, and other mediums for the cultivation and isolation of tubercle bacilli. A new method is described for the isolation of tubercle bacilli from contaminated tuberculous sources, incorporating the use of sulphuric acid (or hydrochloric acid) as a reagent for the preliminary treatment of the materials and crystal violet potato medium as a nutrient medium for their growth.

Diagnostic Value of Levinson Test.—In the ninety-eight spinal fluids examined by Giordano and Ableson, 32 per cent yielded false reactions with the Levinson test. In 100 per cent of the proved cases of tuberculous meningitis, there was a heavier precipitate with mercuric chloride, and in 90 per cent of these the ratio was 2:1 or higher. In the first speci-

mens of spinal fluid, results in the dextrose content as well as by the Levinson test were sometimes at variance with those obtained from later specimens.

Journal of Nervous and Mental Disease, New York

67: 105-208 (Feb.) 1928

*Decerebrate Rigidity from Clinical and Physiologic Standpoint. N. Zand, Warsaw, Poland.—p. 105.
*Postencephalitic Fröhlich's Syndrome. W. J. Lang, Chicago.—p. 120.
Case of Amyotonia Congenita. W. W. Young, Atlanta, Ga.—p. 128.
Karl Kleist: His Method of Research and Its Results. H. Strauss, Frankfort-on-the-Main, Germany.—p. 132.

Decerebrate Rigidity.—Zand concludes that the nucleus olivaris inferior is responsible for decerebrate rigidity; this theory is confirmed by the fact that decerebrate rigidity disappears when the olives are destroyed and by clinical cases of decerebrate rigidity in which the olives are always well preserved but the communication between the olives and the higher centers is destroyed.

Postencephalitic Fröhlich's Syndrome.—Lang reports a case of congenital sexual dystrophy which developed into a typical Fröhlich's syndrome as a result of encephalitis.

Kansas Medical Society Journal, Topeka

28: 37-72 (Feb.) 1928

Problems of Drainage in Spinal Tuberculosis. A. Steindler, Iowa City.—p. 37.
Postoperative Thrombophlebitis. D. W. Basham, Wichita.—p. 42.
Fads, Fancies and Facts in Cure of Disease. J. A. Rader, Caney.—p. 46.
Elective Podalic Version. R. H. Hertzler, Newton.—p. 52.

Kentucky Medical Journal, Bowling Green

26: 49-100 (Feb.) 1928

*Results of Prenatal Care Versus No Prenatal Care. A. N. Pickett, Louisville.—p. 52.
Orthopedic Consideration of Chronic Arthritides. J. D. Trawick, Louisville.—p. 56.
Pyelitis of Infancy and Early Childhood. T. W. Marks, Lexington.—p. 63.
Tuberculous Meningitis. T. C. Smith, Louisville.—p. 67.
Significance of Basal Metabolism in Disease. W. S. Wyatt, Lexington.—p. 70.
Early Recognition of Surgical Goiter. W. I. Hume, Louisville.—p. 73.
Use of Iodine in Goiter. R. R. Elmore, Louisville.—p. 76.
Few Practical Applications of Preventive Medicine by General Practitioner. R. E. Smith, Henderson.—p. 83.
Pathogenicity of Bacillus Fecalis-Alkaligenes. M. Y. Marshall, Henderson.—p. 89.
Acute Appendicitis: Plea for Earlier Operation. E. W. Northcutt, Covington.—p. 89.
Hereditary Syphilis and Its Eye and Ear Symptoms. S. G. Dabney, Louisville.—p. 91.

Results of Prenatal Versus No Prenatal Care.—Since April 1, 1923, the Bureau of Maternal and Child Health of the Kentucky State Board of Health, working under the federal Maternity and Infancy Act, has cooperated with the Prenatal Clinic of the Louisville City Hospital. Pickett reports on the value of prenatal care. There were delivered 3,217 mothers. Of these, 2,061 were registered in the prenatal clinic, and 1,156 had never been to the clinic and had not received any prenatal care. Among the 2,061 patients who attended the clinic, there were six deaths. This was at the rate of 2.91 mothers per thousand deliveries, as against a mortality for the state at large of 6.67 per thousand deliveries. Among the 1,156 nonclinic patients, there were twenty-six deaths; that is, a rate of 22.4 mothers per thousand deliveries. Among the 3,217 mothers delivered were forty-seven cases of eclampsia. Thirty-five of these developed among the 1,156 nonclinic mothers, an incidence of 3.02 per cent. Among the 2,061 clinic mothers were twelve cases of eclampsia, an incidence of 0.58 per cent. Of these twelve clinic patients developing eclampsia, none were lost. For these patients the prenatal care had not been sufficiently thorough to prevent development of eclampsia, but it had so far ameliorated the toxemia that no lives were lost. Of the thirty-five nonclinic patients, ten were lost, a mortality of 28.5 per cent, or 8.5 deaths per thousand deliveries.

Maine Medical Association Journal, Portland

19: 19-36 (Feb.) 1928

Cancer. J. S. Rodman, Philadelphia.—p. 19.
Public Health. E. D. Merrill, Dover-Foxcroft.—p. 26.

Medical Journal and Record, New York

127: 173-232 (Feb. 15) 1928

*Place of Malaria in Treatment of General Paralysis. H. A. Bunker, Jr., and G. H. Kirby, New York.—p. 173.
Present Status of Vaccine Therapy in Surgical Diseases. B. A. Thomas, Philadelphia.—p. 178.
Diagnosis and Treatment of Squint. S. A. Agatston, New York.—p. 181.
*Carcinoma of Rectum in Man Aged 18 Years. S. A. Loewenberg, Philadelphia.—p. 183.
Suggestions as to Cause of Immunity Following Attack of One of Acute Infectious Diseases. F. Herb, Chicago.—p. 185.
Congenital Radio-Ulnar Synostosis: Three Cases. J. Grossman, New York.—p. 186.
Therapeutic Value of Implants of Sheep Testis in Human Beings: Fifty Cases. G. R. Satterlee, New York.—p. 188. C'cn.
*Radium Therapy in Certain Metabolic Disorders Combined with New Blood Sugar Reducing Diet. M. Heiner and M. Adler, St. Joachimstal, Carlsbad, Czechoslovakia.—p. 192.
Alcohol in Its Biologic Aspects. C. R. Stockard, New York.—p. 195.
Medicinal Use of Alcohol in Acute Infectious Diseases. S. W. Lambert, New York.—p. 197.
Use of Alcohol in Circulatory Defects of Old Age. H. Brooks, New York.—p. 199.
Alcohols: Their Practical Utility. W. H. Porter, New York.—p. 206.
Alcohol and Prohibition. G. Stragnell, New York.—p. 210.
Medicine and Literature. E. Podolsky, New York.—p. 211.
Louvre as Medical Art Museum. G. T. Pack, Tuscaloosa, Ala.—p. 219.

Place of Malaria in Treatment of General Paralysis.—Bunker and Kirby review their experience with this therapy. Of 156 male patients with general paralysis who received the malaria treatment between June 1, 1923, and Aug. 1, 1927, at least 50 per cent manifested a definitely favorable response, even though in one third of the latter residual evidences of previous cerebral tissue destruction precluded full recovery in a clinical sense. In this group, observed over an average period of two and one-half years, the death rate from general paralysis has been 12.5 per cent; based on the average expectation of life of 1.5 years exhibited by untreated general paralytic patients in the New York state hospitals, the death rate in the present group would have been at least 65 per cent. Of thirty-four patients treated more than three and a half years ago, twenty-nine were alive three months after the completion of the course of fever; of these twenty-nine, five have since died, six are unimproved (although only one of these has definitely retrogressed), two have remained moderately improved, and sixteen attained full remissions; in fourteen of these, the state of complete clinical remission has thus far continued unaltered. In a group of eighty-four cases, twelve out of sixteen patients of the manic or hyperactive type achieved full remissions, as compared with eleven out of twenty of the expansive type, but only seven out of forty-eight of the simple dementing type who did so. In a group of forty-seven patients followed for at least two years and a half, the malaria treatment had little or no influence on the strength of the Wassermann reaction in the spinal fluid in twenty-six. But in ten patients the Wassermann reaction has become completely negative (to 1 cc. of spinal fluid) following on treatment with malaria alone. Two years was more or less the minimum period of time required by the majority of patients to attain at least the higher degrees of modification of the Wassermann reaction in the spinal fluid.

Carcinoma of Rectum in Youth.—Aside from the age of Loewenberg's patient, interesting features in this case were the absence of marked anemia or cachexia, and of pain; the profuse diarrhea with comparatively little bleeding; the peculiar sugar tolerance curve, and the presence of a painful nodule in the lower abdomen. Blood sugar, fasting, was 0.79. One hundred grams of dextrose was given; thirty minutes later the blood sugar showed 150; forty-five minutes later, 150; sixty minutes later, 142; seventy-five minutes later, 135; 150 minutes later, 122. The clinical diagnosis was ulcerative colitis. The roentgenologist suspected syphilitic infection. Parasitic infection was ruled out because of the absence of parasites or ova in the stool, and the absence of digestive disturbances, of anemia and of esinophils. Because of the peculiar sugar tolerance curve, the melena, the uncontrollable and unusually frequent bowel movement and the presence of a palpable tender nodule in the lower abdomen and in spite of the youth of the patient and the absence of anemia and cachexia, a malignant condition of the bowel was sus-

pected, and a biopsy was made. The pathologic report was adenocarcinoma with mucoid degeneration.

Blood Sugar Reducing Diet.—The blood sugar reducing diet proposed by Heiner and Adler regulates the quantities of protein and carbohydrates according to about the equal ratio of 1:1.25. In the light of recent experiments, the inclusion of milk or its products, even of the smallest quantities, must be considered as the cause of the poor utilization of the food in all such cases of protein and carbohydrate metabolic disturbances in which a hyperglycemia is found. The increased blood sugar level never drops so quickly if the food contains even insignificant amounts of milk. On the other hand, by excluding milk, the blood sugar is reduced to normal so rapidly that the conclusion that an insulin-like effect should be attributed to this new standard diet is justifiable. Experiments with this new diet have shown that the acidosis is always due to the ratio of the absolute quantity of proteins in the total food to that of the fats. The quantity of food proteins being only slightly in excess, the slightest increase in fats always produces a certain degree of acidosis. A sample diet is given. It contains 57 Gm. of proteins and 72 Gm. of carbohydrates.

Missouri State M. Association Journal, St. Louis

25: 97-136 (March) 1928

Hereditary Blindness in Missouri. H. D. Lamb, St. Louis.—p. 97.
Relation of Social Hygiene to Prevention of Blindness. B. F. Royer, New York.—p. 100.
Common Errors in Diagnosis and Treatment of Tuberculosis. G. T. Palmer, Springfield, Ill.—p. 103.
Anacatadidymus: Case. W. R. Gaddie, Duenweg, and J. L. Sims, Joplin.—p. 107.
Treatment of Intracranial Hemorrhage in New-Born. J. D. VanCleve, Malden.—p. 109.

New Jersey Medical Society Journal, Orange

25: 83-160 (Feb.) 1928

Medical Expert Testimony. W. E. Brown, Jr., Atlantic City.—p. 83.
Rehabilitation of Physically Handicapped. H. H. Kessler, Newark.—p. 85.
*Abdominal Manifestations in Cardiovascular Disease. A. E. Parsonnet, Newark.—p. 90.
Preoperative and Postoperative Treatment of Diabetic Patients. J. Skwirsky, Newark.—p. 95.
Importance of Radiographing Bone and Joint Lesions. C. A. Plume, Succasunna.—p. 97.
Electrothermic Methods, Roentgen Rays and Radium in Treatment of Malignant Diseases of Eye, Ear, Nose and Throat. J. T. Stevens, Montclair.—p. 99.
Nutrition of Adolescent Child. H. B. Silver, Newark.—p. 108.

Abdominal Manifestations in Cardiovascular Disease.—The three cases reported by Parsonnet demonstrate how misleading gastro-intestinal complaints may be. In all these cases the cardiovascular system was at fault, and the conditions were recognized only after treatment directed toward the apparent cause had failed and attention was directed toward the heart and circulation. The first case was an unsuspected myocardial failure which was rapidly relieved through the information secured by complete examination. The second patient was saved from a gallbladder operation by the evidence secured from the electrocardiogram, and the third case responded to prompt digitalization.

Northwest Medicine, Seattle

27: 57-116 (Feb.) 1928

Thyroid Gland: Its Relation to Disease. D. Marine, New York.—p. 57.
Goiter Problem. G. W. Middleton, Salt Lake City.—p. 60.
Larynx in Thyroid Surgery. A. B. Murphy, Everett, Wash.—p. 62.
*Roentgen-Ray Examination of Uterus. L. Kallen, San Francisco.—p. 64.
*Rupture of Uterus During Pregnancy Following Cesarean Section. G. N. Rotton, Seattle.—p. 72.
Wassermann Reaction in Pregnancy, Labor and Puerperium. J. L. Lane, Seattle.—p. 77.
Pedicled Skin Grafts. A. G. Bettman, Portland, Ore.—p. 78.
*Management of Patients with Heart Disease. T. H. Coffen, Portland, Ore.—p. 87.
Clinical Aspects of Hypertension. E. J. Jasper, Astoria, Ore.—p. 93.
Common Traumatic Derangements of Knee Joint. E. A. Rich, Tacoma, Wash.—p. 95.

Roentgen-Ray Examination of Uterus.—Kallen injects air into the rectum and bladder for the purpose of throwing the female pelvic organs *en silhouette* in the roentgenogram. He describes his method.

Rupture of Uterus Following Cesarean Section.—In 1920, Rotton's patient had had a classic cesarean section performed. In December, 1924, she again became pregnant. In July, 1925, she was seized with a severe, dull, aching pain in the abdomen, located diffusely above the umbilicus. The discomfort in the abdomen persisted, and shortly after the onset the abdomen began to increase in size, the walls becoming very tense. Within a few hours after the onset of the pain and swelling, vomiting appeared as a symptom. Attacks of nausea and vomiting increased in frequency and severity, and there was increasing difficulty in getting the bowels to move. On admission to the hospital, the patient was having frequent emeses of dark colored material with a fecal odor and only at long intervals was she able to pass gas through the rectum. She had not had any chills or fever and there had not been vaginal bleeding. She had not felt fetal movement for seven days. A diagnosis of dead fetus was made, but attempts to dilate the cervix for the purpose of emptying the uterus failed. On digital examination, the uterus proved to be empty. A laparotomy was performed. The abdomen was filled with old blood clots. The uterus was firmly contracted and the entire fundus from tube to tube appeared to be "blown away," there remaining a rough, jagged crater. On the left side, under the diaphragm, adherent to it and to adjacent structures, was found an unruptured fetal sac. On the right side and also adherent to the diaphragm was a similar mass—placenta, membranes and fetus. When the fetal sacs were opened, the liquor was found to be dark and cloudy. Both babes showed extensive maceration of the skin, evidence that they had been dead for some little time.

Management of Heart Disease.—In studying about 1,000 records of patients with heart disease, Coffen found the following incidence of early signs and symptoms: dyspnea, 70.1 per cent; palpitation, 62.6 per cent; heart pain, 36.2 per cent; digestive disturbance, 24.2 per cent; respiratory symptoms and signs, 22.6 per cent; weakness, 19.9 per cent; dizziness, 34.4 per cent; enlarged heart, 57.3 per cent; enlarged liver, 19.2 per cent; edema, 17.7 per cent; extrasystoles, 43.5 per cent. The treatment of the condition is discussed at length.

Public Health Reports, Washington, D. C.

43: 313-373 (Feb. 10) 1928

Sickness Among Persons in Different Occupations of Public Utility. D. K. Brundage, Washington, D. C.—p. 314.

South Carolina M. Association Journal, Greenville

24: 23-50 (Feb.) 1928

Common Cold. W. J. Bristow, Columbia.—p. 25.
Infant Mortality in South Carolina. W. E. Simpson, Rock Hill.—p. 27.
Causes and Complications of Gallbladder Infections. D. Kluttz, Greenville.—p. 32.

Tennessee State M. Association Journal, Nashville

20: 341-380 (Feb.) 1928

Ureteral Stricture. T. R. Barry, Knoxville.—p. 341.
Tumors of Breast: Seventy Cases: Results Obtained from Surgery, Radium, Deep Therapy and Cautery. E. T. Newell, Chattanooga.—p. 344.
Keratoconus: Seven Cases. E. C. Ellett and R. O. Rychener, Memphis.—p. 348.
*Treatment of Blood Stream Infection with Mercurochrome. H. Wood, Nashville.—p. 353.

Treatment of Blood Stream Infection with Mercurochrome.—Wood reports three cases of blood stream infection from a mastoid abscess demonstrated by blood cultures that did not terminate fatally, the first and only cases he has ever seen. Two patients had mastoid abscess with thrombosis of the lateral sinus. In each of the three cases, everything that numerous consultations could suggest had been done without apparent improvement in the patient's condition. In each case, permanent improvement in the condition of the patient began with the intravenous administration of mercurochrome-220 soluble, from 6 to 20 cc. of a 1 per cent solution. In each case, two intravenous injections of mercurochrome were given. In none of the cases was there evidence of nephritis either before or following the administration of mercurochrome. In all three of the cases, urinalyses were made months afterward and were negative.

Wisconsin Medical Journal, Milwaukee

27: 51-98 (Feb.) 1928

Lister as Scientist. G. E. Seaman, Milwaukee.—p. 51.
Fractures, Simple: Management. C. J. Combs, Oshkosh.—p. 55.
Cerebrospinal Fluid in Children. M. G. Peterman, Milwaukee.—p. 59.
Disability: Estimation of Amount. L. A. Tarrell, Milwaukee.—p. 63.
Primary Infection of Lungs with Blastomycetes: Case. W. E. Fairfield and R. W. Kispert, Green Bay.—p. 69.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Disease in Childhood, London

3: 1-56 (Feb.) 1928

*Nontuberculous Fibrosis of Lung in Children. C. D. S. Agassiz and W. J. Gill.—p. 1.
Distribution of Rheumatic Infection in Children in Birmingham. A. P. Thomson.—p. 20.
Review of 180 Children Suffering from Rheumatism, Chorea and Carditis. R. Marshall.—p. 28.
*Hemorrhagic Disease of New-Born. R. S. Beveridge.—p. 39.
*Two Types of Vomiting Associated with Acetonuria. O. C. M. Davis.—p. 49.

Nontuberculous Fibrosis of Lung in Children.—Agassiz and Gill are convinced that nontuberculous fibrosis of the lung is a very common disease in children and that it is often overlooked and diagnosed as pulmonary tuberculosis. Examination of the previous history shows a high incidence of measles, whooping cough or pneumonia. The other exanthems occurred in only a few cases, e. g., scarlet fever, diphtheria, rubella, chickenpox, mumps and influenza, and in one case there was a history of empyema. Presumably the occurrence of these diseases had little bearing on the origin of the fibrosis. The striking fact brought out by this analysis is the high incidence of pneumonia—approximately 60 per cent of the cases reported. The treatment is mainly palliative. The ordinary open-air treatment in convalescent homes, or sanatoriums for children, suits these children very well. Prevention, so far as possible, of the onset of catarrh should be practiced. With the onset of any fetor of the breath, creosote in increasing doses should be given, and children of tender years will take up to half a drachm, thrice daily, without complaint.

Hemorrhagic Disease of New-Born.—Twenty-four cases are reviewed by Beveridge. It is suggested that the determination of the coagulation and bleeding times would assist in the diagnosis between hemorrhage due to trauma and the true hemorrhagic disease. From the facts and figures available, it is apparent that the most efficient and satisfactory treatment is the injection of whole human blood. Transfusion is essential in all cases in which constitutional symptoms are severe.

Cyclic Vomiting Associated with Acetonuria.—Davis reports three cases of cyclic vomiting and eight cases of severe acetonuric vomiting or toxemic vomiting of childhood with acetonuria. In both types a variable degree of acidosis and ketosis is observed. The ease with which these conditions develop in children points to the necessity for the early administration of bases in many cases.

British J. Experimental Pathology, London

9: 1-48 (Feb.) 1928

Virulence of Hemolytic Streptococci: Morphology of Colonies. E. W. Todd.—p. 1.
Serologic Studies in Group of Spore-Bearing Anaerobes: I. Qualitative Analysis of Bacterial Antigens of B. Edematis Maligni (Vibrion Septique) and B. Tetani. A. Felix and M. Robertson.—p. 6.
Experiments on Virus of Fowl Plague: I. C. Todd.—p. 19.
Cultivation of Virus of Fowlpox. G. M. Findlay.—p. 28.
*Serodiagnosis of Syphilis by Meinicke's Macroreaction and Microreaction. E. A. Rucker and L. E. H. Whitby.—p. 30.
*Vaccination of Guinea-Pigs Against Tuberculosis with B C G. C. C. Okell and H. J. Parish.—p. 34.
Testing and Standardization of B. Welchii (Perfringens) Antitoxin. T. Dalling, A. T. Glenny, J. H. Mason and R. A. O'Brien.—p. 43.

Serodiagnosis of Syphilis: Meinecke Reaction.—Rucker and Whitby have found Meinicke's reaction quite definitely reliable in untreated cases of syphilis, and it is therefore of distinct value for diagnostic purposes. The simplicity and quickness of its performance are points in its favor. The microreaction is of particular value in children with congenital syphilis. In their experience the discrepancies as compared with the Wassermann reaction have never indicated that Meinicke's reaction is the more sensitive. The sigma reaction is more sensitive than Meinicke's reaction. Meinicke's reactions are distinctly less trouble to perform and more easy to read than either the Kahn or the sigma reaction. The value of Meinicke's reactions is mainly that of orientation, the progress of treatment being controlled by the Wassermann test with or without Meinicke's reaction as confirmatory evidence.

Immunization Against Tuberculosis.—Experiments made by Okell and Parish indicate that by means of B C G guinea-pigs can be partially and in some cases completely protected from infection with a dose of virulent bacilli. A living vaccine of Calmette and Guérin's strain of *B. tuberculosis* (B C G) has not caused tuberculosis in guinea-pigs even after an intensive course of five doses of 20 mg. each of the living vaccine. Guinea-pigs inoculated with B C G and later with virulent *B. tuberculosis* (human or bovine strains) tend to live for longer periods than others which have received an infecting dose of virulent organisms only. It is uncertain from the evidence here produced that B C G is a much better experimental prophylactic than living attenuated bacilli, Koch's bacillary emulsion (B. E.), dead tubercle bacilli, or certain other vaccines which have been in vogue at various periods in the past.

British Medical Journal, London

1: 245-292 (Feb. 18) 1928

Progress of Surgery from Hunter's Day to Ours. H. Waring.—p. 245.
Theories of Suggestion. W. Brown.—p. 251.
*Causation of "Striae Atrophicae Cutis." F. P. Weber.—p. 255.
*Dysphagia Associated with Anemia. A. M. Jones and R. D. Owen.—p. 256.
*Cases of Ileocecal Resection. C. L. Isaac.—p. 257.
Acute Distention of Gallbladder (Mucocele) in Child. L. S. Torrance.—p. 258.
Eclampsia. H. J. Thomson.—p. 258.
Patient's Comfort After Prostatectomy. W. S. Wildman.—p. 259.
Dermatitis Herpetiformis in Child. S. Wigoder.—p. 259.
Removal of Foreign Body from Stomach of Infant. W. B. R. Monteith.—p. 259.

Cause of Striae Atrophicae Cutis.—Weber suggests that, as the redundance of the cutis present in certain cases of acromegaly is obviously due to excessive hormonic activity of the anterior lobe of the pituitary gland, or of an adenomatous tumor (an "endocrine tumor") arising from it, the insufficiency of the cutis manifested by striae atrophicae cutis, when not caused by special distention, may be due to a defective hormonic activity of the same endocrine gland, for which, perhaps, a depressing action of the toxins of typhoid and other microbic infections may be sometimes responsible. This suggestion is in accordance with the occurrence of obesity (of a cerebral or pituitary type) occasionally observed as a sequel to typhoid and other microbic infections.

Dysphagia and Anemia.—Jones and Owen suspect that there is some connection between symptomatic dysphagia and anemia, even pernicious anemia. In a case cited, the dysphagia was occasionally associated with ulceration of the tongue. Blood examination showed poikilocytosis, anisocytosis, polychromasia, and punctate basophilia; hemoglobin was 32 per cent; color index, 1.4; red cells, 2,200,000; white cells, 5,000; polymorphonuclears, 57 per cent; lymphocytes, 37 per cent; large mononuclears, 6 per cent. Normoblasts and one or two megaloblasts were seen. The spleen was enlarged. The central nervous system did not show any abnormality. The Wassermann reaction was negative. The urine contained acetone, bile salts and pigments. The van den Bergh test, direct, was delayed positive; indirect, immediate positive. A fractional test meal showed achylia without delay. Roentgen-ray examination showed the stomach to be very large and atonic, reaching well down into the true pelvis. There was no irregularity or tenderness. Six hours later the bulk of the meal was in the terminal ileum. A swab from the throat gave pure growths of *Streptococcus viridans* and *S. longus*. A diagnosis of pernicious anemia was made and treatment carried out accordingly. Direct esophagoscopy failed to show any evidence of a neoplasm.

Ileocecal Resection.—Isaac reports six cases in which ileocecal resection has been necessary—two for intussusception with carcinoma of the cecum, two for carcinoma of the ascending colon, one for carcinoma of the cecum and one for tuberculosis of the cecum.

Lancet, London

1: 271-322 (Feb. 11) 1928

*Fifty Consecutive Cases of Pregnancy and Parturition in Patients with Crippled Hearts. J. Hay and E. Hunt.—p. 271.
Critical Examination of Some Cases of Scarlatiniform Type. G. E. Friend.—p. 274.
Conservative Mastoid Operation. C. J. Heath.—p. 279.
Porphyrin in Mouth. A. A. H. Van Den Bergh.—p. 281.
Two Cases of Conjoined Twins: I. Thoracopagus. C. V. Patrick.—p. 282.
Id.: II. Craniopagus. H. C. Cameron.—p. 284.
*Leukocytic Changes Resulting from Treatment of Pernicious Anemia with Liver. L. E. H. Whitby.—p. 285.
*Case of Tetanus. S. Berman.—p. 286.
Case of Borax Poisoning. J. Birch.—p. 287.
Night Terrors. J. W. Shackle.—p. 287.

Pregnancy and Heart Disease.—Hay and Hunt state that pregnant women with diseased hearts must be treated primarily as cardiac patients, and the first indications of cardiac failure noted. They must be under regular medical supervision throughout. Among the poor, an antenatal clinic and a rest home are of the very greatest value. In every patient the reserve power of the heart must be increased by adequate rest and symptomatic treatment. Rest is essential, more especially during the four to six weeks before labor. Dyspepsia, flatulence, constipation, insomnia, bronchitis and other discomforts must be remedied. If there is auricular fibrillation it must be controlled with digitalis, and the optimum dose must be found and maintained. Any woman with auricular fibrillation must be kept under constant supervision. During labor the aim is to lessen the nervous and physical exhaustion of the first stage and to diminish the physical strain of the second stage. Light anesthesia during the second stage is helpful, and narcotics are valuable; they reduce the voluntary effort. An early resort to instrumental help is most important. In the earlier months cardiac failure which refuses to respond to treatment justifies immediate intervention, especially if there is persistent retching and vomiting. Induction, however, should never be attempted until compensation has been restored as far as possible by rest and drugs. Experience has shown that the majority of women with crippled hearts in whom the cardiac reserve is good are capable of pregnancy and labor without any great additional risk. This is especially true if the cardiac lesion is not progressive and if there is no history of a previous cardiac breakdown.

Leukocytic Changes in Pernicious Anemia Following Liver Diet.—The common leukocytic blood picture in pernicious anemia is a leukopenia with a relative lymphocytosis, a picture common to many chronic intoxications. Adequate liver diet appears to stimulate the production of leukocytes, so that the leukopenia is abolished. In two of the four cases described by Whitby, the relative lymphocytosis disappeared and the differential count became normal except for a transient but definite eosinophilia. Eosinophilia was found in all four cases; in the first case it rose to 26 per cent after eleven weeks' treatment. The eosinophilia seems to be a part of the patient's reaction to the treatment, and the transient nature of the phenomenon points to a parallel between the reticulocyte reaction and the increase in eosinophils. The appearance of reticulocytes in the blood is the earliest favorable indication as to the prospect of a good result; the eosinophilia appears after the reticulocytes have gone and when the patient is well on the way to having a normal blood count. It is conceivable, therefore, that eosinophilia will be found to be another favorable prognostic sign.

Unusual Case of Tetanus; Infection Through Ear.—While at play, a boy poured some lemonade into the ear of Berman's patient. That evening the patient complained of pain in the ear; the next day this became more severe and he "felt a lump in the ear"; this was soon followed by a discharge of pus from the left meatus, which continued. Six days after the beginning of the ear trouble, a slight stiffness of the jaw was first noticed; this gradually became worse and extended to the cervical and dorsal muscles. The case was obviously one of severe tetanus. Under general anesthesia 25 cm. of cerebrospinal fluid, which was quite normal both macroscopically and on detailed examination, was withdrawn by lumbar puncture and 20,000 units of antitetanic serum was injected intrathecally; at the same time 10,000 units was given subcutaneously. The next day, the patient was given a further dose of 20,000 units of serum intrathecally and 8,000 units subcutaneously, and this was again repeated on the third day. On the fourth day an intrathecal injection of 20,000 units and a subcutaneous injection of 8,000 units were made. Later, another injection of 8,000 units was made. In all, about 130,000 units was injected. The patient made an uneventful recovery.

Tubercle, London

9: 205-256 (Feb.) 1928

*Value of Hemidiaphragmatic Paralysis by Evulsion of Phrenic Nerve in Treatment of Pulmonary Tuberculosis and Bronchiectasis. H. M. Davies.—p. 205.
Leukocytic Formula in Tuberculous Considered as Reaction to Damaged Tissue. E. M. Medlar.—p. 218.
Evolution of Tuberculous Infection in Childhood. C. R. Austrian.—p. 229.

Evulsion of Phrenic Nerve in Treatment of Pulmonary Tuberculosis.—Davies relates his experience with evulsion of the phrenic nerve in 105 cases of tuberculosis. The effect on the dome of the diaphragm varies greatly, and Davies' observations do not corroborate the statements previously made by other writers that the rise on the right side is about twice that on the left. The highest immediate rise noted by him on the right side was 7 cm., the next highest was 5.5 cm. and there were two patients with a rise of 4.5 cm. On the left side the highest immediate rise noted was 7.5 cm. and the next highest were 6.5 cm. and 6 cm., while in six other cases the rise was over 4.5 cm. In three the dome was paralyzed but there was no immediate rise. In no case was there failure, in that no paralysis resulted. In only one case has recovery of the muscle been noted. In this patient the muscle was paralyzed and raised, and paradoxical movements were seen immediately after the operation and again a month later; six months after, the muscle was functioning normally (11 cm. of the phrenic nerve had been excised). Paradoxical movements were noted in thirty-two cases. Of the 105 cases in this series, fifty-four were right-sided and fifty-one left-sided. The youngest patients were 3 and 5½ years of age, the oldest 55 (three patients). The longest nerve evulsed of the males measured 49 cm. (trunk 29 cm., terminal filaments 20 cm.), and of the females, 46.5 cm. (trunk 28.5 cm., terminal filaments 18 cm.). In thirty-six patients the length of nerve removed was 10 cm. or under; in thirty it was between 10 and 15 cm., and in thirty-nine it was over 15 cm. long. In true basal cases of tuberculosis the operation has been unquestionably of immense assistance in arresting the disease, but with one brilliant exception it is of little use in cases of basal bronchiectasis. When the disease is generalized, but mainly unilateral, some improvement, at times of considerable degree, may be expected in about 50 per cent of the cases. This improvement has been noticed in patients with bronchiectasis as well as in those suffering from tuberculosis. As an accessory to incomplete artificial pneumothorax, considerable benefit can be expected in a large percentage of the cases, particularly when the base of the lung is adherent to the diaphagm, or it is desired to increase the interval between the refills. Phrenic evulsion should always be done before allowing a lung, long collapsed, to reexpand. Hemidiaphragmatic paralysis will frequently produce complete relief of distressing symptoms which are due to irritation of the muscle or to distortion, or to drag on the pericardium by adhesions. Phrenic evulsion should always be done as a preliminary to thoracoplasty. On occasion, the result of the minor operation is so satisfactory that the major one becomes unnecessary. As bronchiectasis is liable to develop as a sequel of an unresolved pneumonia, phrenic evulsion should be done as a prophylactic measure in all those cases in which resolution is still incomplete from three to six months after the onset of a basal pneumonia.

Archives des Maladies de l'App. Digestif., etc., Paris

17: 1081-1200 (Dec.) 1927

Surgical Treatment of Gallstones. A. J. Bengolea.—p. 1081.
Phrenospasm or Cardiospasm in Mega-Esophagus. Guns.—p. 1090.
*Milk in Diet of Patients with Gastric Hypersecretion. N. P. Rasoumov and F. M. Levina.—p. 1094.
*Influence of Calcium on Glycosurias. A. G. Phocas.—p. 1113.
Influence of Calcium on Glucose Regulating Mechanism. M. Labbé.—p. 1116.

Milk in Diet of Patients with Gastric Hypersecretion.—The stomach's capacity of adaptation to different foods may be established by comparing the secretion after a Ewald test meal (using the stomach tube) and after a fluid starch meal (Einhorn's tube). A normal ratio of general acidity in the second instance to the same acidity in the first instance should always be below 1.3. In cases of hypersecretion in which the stomach's capacity of adaptation to different foods is lost, there is no particular sensitiveness to milk. On the other hand, there is sensitiveness in cases of hypersecretion in which the capacity of adaptation is preserved. The contraindication to milk in the diet in these latter cases is based not only on the unfavorable combination of fat and albumin, but also on the fact that milk contains vagotropic substances. The results of these experiences furnish a new basis for the exclusion of milk from the diet of persons with hypersecretion.

Influence of Calcium on Glycosurias.—In illustration of the antagonism between sodium and calcium ions, Phocas mentions nine cases in which the action of calcium was favorable. He administered monocalcium phosphate with success three times to young patients. The glycosuria provoked by sodium disappears with the action of calcium. In severe diabetes, calcium seems to have no action. In every case in which diabetes is due to a diminution of the pancreatic hormone, calcium, in its character of antagonist of sodium, diminishes glycolysis.

Encéphale, Paris

22: 741-820 (Dec.) 1927

Motor Syndrome of Catatonic Dementia Praecox. H. Claude, H. Baruk and A. Thévenard.—p. 741.
*Surgical Operations for Intramedullary Tumors and for Syringomyelia. L. Christophe.—p. 768.
*Recent Atypical Forms of Epidemic Encephalitis. J. de Massary.—p. 775.

Surgical Operations for Intramedullary Tumors and for Syringomyelia.—Christophe reports a case of glioma of the cervicodorsal cord which had undergone cystic transformation through central degeneration. The tumor had developed independently of the central canal in the posterior portion of the cord. The differential diagnosis between intramedullary tumor and syringomyelia was difficult and emphasized the importance of the use of iodized oil in the diagnosis of tumors and in their localization. The evacuating operation brought about the complete disappearance of the pains, which were of the type characteristic of syringomyelia. At autopsy it was found that there was no tendency to cicatrization or obliteration of the orifice which had been made in the cord. The neoplasm continued its course, ascending to the bulb, thus killing the patient.

Recent Atypical Forms of Epidemic Encephalitis.— De Massary describes sensory-motor, psychic, neurovegetative and endocrine forms of epidemic encephalitis. In the future these abnormal types may become completely detached from epidemic encephalitis and group themselves under another name.

Journal de Chirurgie, Paris

30: 641-780 (Dec.) 1927

Subserous Cholecystectomy Without Drainage. E. Desmarest.—p. 641.
Regeneration of Bone. D. Prat.—p. 650.
*Results with Resection in Ileocecal Tuberculosis. R. Chabrut.—p. 656.

Results with Resection in Ileocecal Tuberculosis.—Chabrut analyzes the immediate and late results in forty cases of ileocecal resection for tuberculous disease. Ten patients died. Of the surviving thirty patients, no information could be obtained in six. Two patients died of unknown cause. Ten patients presented new signs of intestinal or peritoneal tuberculosis. Twelve recovered from their intestinal tuberculosis. The deaths were either from pulmonary tuberculosis or from intestinal or peritoneal tuberculosis. Contrary to the general opinion expressed in textbooks to the effect that ileocecal tuberculosis is frequently a primary lesion, he has found in his material that it is far more frequently secondary to other tuberculous manifestations. The presence of hypertrophic ileocecal tuberculosis does not exclude the existence of other tuberculous lesions in the intestines. In every operative intervention, a systematic search for such lesions at a distance should be made. Such an exploration may result in a more extensive bowel resection or may suggest the advisability of intestinal anastomosis. Even though ileocecal resection is the operation of choice, it is well to remember that after the most successful operative procedure the patient remains a tuberculous individual.

Journal d'Urologie Médicale et Chirurgicale, Paris

24: 497-608 (Dec.) 1927

*Primary Epithelioma of Perineal Urethra in Man. R. Wurmser.—p. 497.
Plastic Induration of Corpus Cavernosum. Corbineau.—p. 522.
Osteomyelitis of Hip with Fistula Into Bladder. M. Guilleminet and J. Creyssel.—p. 525.

Primary Epithelioma of the Perineal Urethra in Man.—Cancer of the urethra is observed in the perineoscrotal, in the penile and in the balanic urethra in order of decreasing frequency. Two important elements in the etiology seem to be chronic gonorrhea and the transformation of urethral polypi. Cancer of the glans and cancer of the balanic urethra both develop from squamous epithelium. In the deep urethra the cells are of the cylindric type. Metastases are frequent, especially in the lungs. Disturbances of micturition are usually the first symptoms. Others are the tumor, pain, hematuria, discharge, fistulas, adenopathy. The diagnosis and differential diagnosis are thoroughly discussed. Death after from six months to a year is the usual result in case of untreated urethral neoplasm. Seventeen cases are reported by Wurmser.

Marseille-Médical, Marseilles

65: 49-92 (Jan. 15) 1928. Partial Index

Endocrine Glands and Disturbances of Vision. J. Sédan.—p. 49.
*Calcifying Pulmonary Tuberculosis. A. Giraud and C. A. Piguet.—p. 54.

Calcifying Pulmonary Tuberculosis.—From the facts in the case they report, Giraud and Piguet are convinced that a tuberculous infection, incapable of extension and generalization, can be the cause of an extremely prolonged febrile condition. The calcified lesions discovered in the radiograms were scattered widely over the lungs. They were not localized near the hilum. They were numerous and had developed very rapidly. The patient had fever for twelve years, with a temperature oscillating between 37.8 and 38 C. in the intermenstrual periods and exceeding 38 and 38.5 C. in the premenstrual periods. These symptoms were out of all proportion to the lesions found in the lung.

Presse Médicale, Paris

36: 129-144 (Feb. 1) 1928

Arnaud's Ouabaine. Vaquez and Lutembacher.—p. 129.
*Purulent Peritonitis of Cecocolic Origin. G. Loewy and D. Théodoresco.—p. 131.

Purulent Peritonitis of Cecocolic Origin.—A woman, aged 27 years, had a sudden attack of pain in the right iliac fossa three years ago, which yielded to rest in bed, diet and applications of ice. Since this time she had been comparatively well, except for pain in the right iliac fossa accompanied by slight fever during strains and at the menstrual periods. She had lost considerable weight. The present attack had begun with diarrhea and vomiting. Later, there was continuous pain with paroxysms of intense pain in the right iliac fossa. A fortnight after the beginning of symptoms, operation was performed. The peritoneum was red and injected. A cloudy fluid, diffused between the nonadherent wall of the cecum and the parietal peritoneum, escaped through the incision. The cecum and the adjoining portion of the ascending colon were purplish red in color and presented distinct inflammatory lesions. The appendix was normal. Appendectomy was performed, and the patient made a good recovery, without drainage of the peritoneal cavity.

Revue Française de Pédiatrie, Paris

3: 745-888 (Dec.) 1927

*Pathologic Variations of Alkali Reserve of Blood in Children. E. Leenhardt and J. Chaptal.—p. 745.
Estimation of Renal Function. M. M. Lévy.—p. 772.
*Niemann-Pick Disease. P. Corcan, C. Oberling and G. Dienst.—p. 789.
*Etiology of Secondary Tuberculous Meningitis. R. Debré and R. Senoze.—p. 830.
Flatau's Method of Chromoneuroscopy in Pediatric Clinic. V. Mikulowski.—p. 845.

Pathologic Variations of Alkali Reserve of Blood in Children.—Children develop acidoses identical to those encountered in the adult. The authors report observations of renal, circulatory and diabetic acidosis in children along with a more rare form due to arsenic intolerance. The cases included six of acute gastro-enteritis with acidosis and three without; four of abiotrophy with acidosis; four of rickets with acidosis and three without, and one case of leukemia with acidosis. The treatment applied with success to the abiotrophies and to rickets consisted of a strict diet and the use of ultraviolet rays. It resulted in the reestablishment of the normal content of bases which protect the organism against acids. Physical improvement followed. In disturbances in which acidosis played an etiologic rôle, actinotherapy seemed to be the most efficacious treatment; in acute gastro-enteritides, however, it gave no results. Here the administration of sodium bicarbonate by mouth or intravenously seemed to be the only logical treatment of the acidosis. Its results, however, were not constant.

Niemann-Pick Disease.—This is the first case of Niemann-Pick's disease to be reported in France. The patient was a boy, aged 7 months, presenting hepatosplenomegaly with generalized polyadenia. There were no signs of hereditary syphilis, and antisyphilitic treatment failed to cause reduction of the hepatosplenomegaly. Histopathologic examination of an excised axillary gland revealed the existence of a lipoidocellular infiltration of the Niemann-Pick type, and puncture of the spleen showed pathognomonic elements in the form of large oval, round or polygonal cells with foamy or vacuolated protoplasm. The child's condition grew worse. All symptoms indicated an acidotic condition. Administration of cardiac tonics, injections of alkaline solutions and several transfusions of blood caused only fleeting improvement and the child died. At necropsy there were found lipolipoidal infiltrations of the liver, spleen and lymph glands, microgyria and cachexia. Gaucher's disease presents the only difficulty in differential diagnosis. In the latter, glandular hypertrophy never reaches the superficial glands. The chief difference, however, lies in the histologic and microchemical data. Niemann-Pick's disease is always characterized by Pick's cell. The etiology is still unknown. It seems to be congenital, constitutional and often familial. Dysfunction of the hepatic cells is probably responsible for the lipolipoidemia.

Etiology of Secondary Tuberculous Meningitis.—Tuberculous meningitis, secondary to tuberculosis of the joints, glands or lungs, is relatively rare in the child. It accounts for only 7 per cent of the total number of tuberculous meningitides. It is most frequent between the ages of 4 and 6 years (children with bone tuberculosis), and secondarily between the ages of 11 and 13 years. Osteo-articular tuberculosis (coxalgia) and visceral tuberculosis (pulmonary) are especially frequent backgrounds. The location of the primary focus has no marked influence. The apparent predominance of cases secondary to Pott's disease is due to the frequency of this localization in young tuberculous patients. Tuberculosis with multiple foci, even though unimportant, is often followed by meningitis. Secondary meningitis appears soon after the clinical beginning of the primary lesions; 60 per cent of the children die in the first year, especially from the fourth to the twelfth month. Acute infections are rarely starting points for generalization of tuberculosis. Surgical traumatism is not often the origin of meningitis. The constitution of a new focus, especially if it is visceral, often announces generalization. Change of climate seems to have no effect. Secondary tuberculosis comes on most frequently in the spring, with a considerable incidence in the autumn.

Revue d'Orthopédie, etc., Paris

35: 1-96 (Jan.) 1928. Partial Index

*Tuberculosis of Wrist (Tumor Albus) in Child. E. Sorrel and J. Longuet.—p. 1.

Tumor Albus of the Wrist in the Child.—Sorrel and Longuet present twenty cases of white swelling of the wrist in children. In only two cases did the lesion extend to all the bones and to all the articulations of the wrist. The partial forms comprised 90 per cent of the cases. In most of the patients the lesions were serious. There were abscesses and fistulas. Nevertheless, in 80 per cent recovery was obtained with conservation of free movement of the wrist. Immobilization is the only local treatment necessary.

Archivio di Antropologia Criminale, Torino

47: 613-897 (Sept.-Oct.) 1927. Partial Index

*Idiosyncrasy and Anaphylaxis. A. Mori.—p. 630.
*Relation of Trauma to Neoplasm. F. Ballotta.—p. 661.
*Two Cases of Traumatic Rupture of Alimentary Canal. F. Ballotta.—p. 688.
*Actual and Potential Injury from Nasal Stenosis. L. Ciurlo.—p. 698.
Pulmonary Edema and Cranial Injuries. A. Antonini and A. Biancalani.—p. 747.
*Physiologic Modifications in Human Organism During Flight. F. Ferrari Lelli.—p. 762.
*Relationship of Static and Dynamic Data to Constitutional Vigor in Selection of Air Pilots. G. Sgarbi.—p. 792.
Pathologic Anatomy of Acute Carbon Monoxide Poisoning. F. Leoncini.—p. 807.

Idiosyncrasy and Anaphylaxis as Related to Compensation.—A differentiation between anaphylaxis and idiosyncrasy is attempted in the following definitions. Anaphylaxis has its origin in a protein or colloid substance, it gives rise to specific reactions. It has an affinity for preformed antibodies and their respective antigens. It requires a period of incubation for the preparation of sensitiveness. It displays the anergic phenomenon of Pirquet, and is capable of passive transmission from supposedly sensitized to immune individuals. Idiosyncrasy is a property deriving its characteristics from a protein, but likewise from a crystaloid substance, without regard to antigens. It is not preceded by a period of incubation. It possesses an hereditary character suggesting functional stigmata of a nervous or dyscrasic kind. It lacks a period of anergy and a demonstrable passive transmissibility. However, Mori admits that the differentiation is not at all clear cut. It is sufficient to state that certain individuals present phenomena of morbid hypersensitiveness to certain chemical, vegetable or animal substances, or to parasites; further, that there is a possibility of preparing artificial antigens, and that recent researches in anaphylaxis originated in the study of hay-fever. An extensive historical review of the subject is presented. Experimental anaphylaxis expresses itself in mucocutaneous, respiratory, circulatory and hematologic manifestations, as well as in serologic changes, such as disappearance or rapid diminution of the complement and of precipitins. He adds personal observations of two laborers unaccustomed to field work, of previous good health, who, while handling hay, developed on the some date and at almost the same hour edema of the face, intense conjunctival hyperemia and coryza. In one case there was a small ulceration on the mucous membrane of the right nostril. In the second case a fissure in the nasal mucosa was noted. These two cases present typical anaphylactic phenomena due to the pollen of hay. In a third case, erythema of the face with intense conjunctivitis and coryza developed in a tin worker while carting dried reeds. He finds no answer in the literature to the question of liability in such cases, but concludes that they should be covered by compensation, even though they are the consequence of a certain morbid intolerance.

Relation of Trauma to Neoplasm from Medicolegal Viewpoint.—Two months after a fall the patient in a case reported by Ballotta began to suffer from intermittent headache, confined to the right side, which became more and more severe. Later there appeared vomiting, a sensation of tingling and anesthesia of the left side of the body and disturbance of the sense of equilibrium. A radiogram did not reveal a skull fracture. Death from cachexia took place seven months after the injury. Necropsy showed no external

evidence of injury to the head or body and no evidence of a fracture. Examination of the brain revealed hydrops and dilatation of the ventricles, hyperemia and stasis of the cerebral vessels and of the finer intracerebral ramifications. The entire lateral and inferior part of the right temperosphenoidal lobe in its anterior two thirds was seen to be invaded by an ovoid tumor, the size of a small orange. The tumor was adherent to the dura covering the superior margin of the petrous portion of the temporal bone and the corresponding portion of the cerebellum. The dura showed inflammatory thickening without any evidence of calcareous degeneration. No metastases or any other lesion were found. Histologic examination revealed abnormal tissue composed of cellular elements among the fibrous strands of the dura. This neoplastic growth, apparently a sarcoma, consisted of compact masses of fusiform cells with an oval nucleus. In another case, seventy-five days after an injury to the right knee in a man, aged 44, there was noted a semispherical tumor of fibrous consistency, the size of a hazel nut, at the site of the injury. Four and one half months later, the knee area increased in volume and the tumor became softer and fluctuated. From then on, the process receded and he was able to return to work. A second injury to the same knee occurred, and this was followed by rapid enlargement and severe pain in the knee. Malignancy was suspected and the joint was resected. The patient died with pulmonary symptoms. The necropsy showed that death was caused by extensive metastases in the lungs. Histologic examination demonstrated sarcoma. In the compensation proceedings in both cases the benefit of the doubt was given the victim and not the defendant. These two cases suggest that trauma per se can cause a neoplasm. It is probable, however, that its effect is due to a stimulation of proliferation in an aberrant embryonal cell group lying dormant in normal tissue. It may also be a factor in creating a locus minoris resistentiae. There is no evidence that it can cause a benign tumor to take on a malignant character, other than rapid increase of growth.

Two Cases of Traumatic Rupture of the Alimentary Canal.—In the first case the injury was caused by a fall on the abdomen from a height of 3 or 4 M., resulting in the tear of the first part of the large intestine with peritonitis and death two days later. In the second case, as a result of a fall, there occurred a rupture of the stomach and intestine. Rupture of the alimentary tract is not as rare as is supposed by many authors. It does not necessarily require great force. The state of fulness of these viscera is of greater importance in making them less resistant to the effect of injury than is their anatomic position.

Actual and Potential Injury from Nasal Stenosis.—The first effect of impairment of the free passage of air is to aggravate the frequently existing chronic and hypertrophic rhinitis. It also leads to a characteristic nasal facies. Loss of taste, improper phonation, occlusion of the eustachian tube, sinusitis and impairment of vision are some of the remote results. An increase in arterial blood pressure and other circulatory disturbances take place, because of diminished aeration of the blood. Pressure on the nasal nerve filaments may give rise by reflex action to trigeminal neuralgia, vertigo, epileptic attacks, hemicrania, chorea, etc. The relation of nasal deformities to working capacity is not properly appreciated. Ciurlo proposes the following disability scale: Complete unilateral obstruction, from 8 to 10 per cent; reduction of freedom of passage on one side to one half, from 5 to 7 per cent; complete bilateral obstruction, from 20 to 25 per cent; bilateral nasal stenosis of second grade, from 10 to 20 per cent; unilateral obstruction with lacrimal duct stenosis, from 18 to 20 per cent; bilateral stenosis with lacrimal duct obstruction, from 35 to 40 per cent; anosmia of the second degree, from 5 to 10 per cent.

Physiologic Modifications in the Human Organism During Flight.—No changes in respiration are noted at a height of from 1,000 to 2,000 M. At from 2,000 to 5,000 M. respiration becomes more rapid, the aviator may experience air hunger. At this height, both acidosis and alkalosis of the blood have been noted. The Italian school has demonstrated acidosis by establishing a loss of alkalinity on the part of the kidneys. Acceleration of the pulse at a high altitude may result from lowering of barometric pressure or from emotion. A sense of painful constriction in the cardiac region, with tachycardia and congestion of the face, is sometimes noted in rapid descent. The blood pressure increases in ascent and decreases in descent. According to some observers, arterial hypotension is the result of the excitation of the labyrinth, with reflex vasodilatation. Anorexia, nausea and vomiting, a state resembling seasickness, as well as dryness of the mouth, are experienced by some. Hemorrhages do not occur at these altitudes. Mild auditory and visual disturbances occur frequently. Concentration, judgment and decision diminish strikingly at altitudes of 7,000 M. and higher. Some of these effects are not unlike those caused by alcohol. Among the consequences noted after a flight are: fibrillary tremors of the extremities, rapid pulse, a sense of fulness in the ears, severe headache, which may persist for forty-eight hours, urinary suppression, nervousness, restlessness and insomnia.

Importance of Relationship of Static and Dynamic Data to Constitutional Vigor in Selection of Air Pilots.—The author considers the determination of the dynamic qualities of the cardiovascular system, as practiced in the United States, an insufficient criterion, because, in his opinion, the pulmonary apparatus is of greater importance to the aviator than is the cardiovascular. He proposes a new index—a thoracopulmonary index, obtained from six measurements: (1) the index of the thoracic cavity obtained by multiplying together the anteroposterior, transverse and sternal diameters; (2) the vital capacity, estimated by Verdin's apparatus on the basis of ten respirations; (3) the respiratory force, determined with Pech's mask; (4) the same obtained with nasal respiration only; (5) the tonicity of the diaphragm and of the respiratory muscles, obtained with forced voluntary apnea following a single prolonged inspiration.

Archivio Italiano di Urologia, Bologna

4: 105-200 (Dec.) 1927

*Primary Ureteral Carcinoma. F. Volante.—p. 105.
Bilateral Double Ureter. M. Ascoli.—p. 133.
*Primary Prostatic Tuberculosis. T. Lucri.—p. 151.
Hematuria and Gallstones. A. Zaffagnini.—p. 161.
Suprapubic Cystotomy in Urinary Retention. G. Razzaboni.—p. 171.
Ureteral Stones. V. Puccinelli.—p. 180.

Primary Ureteral Cancer.—A patient had papillary carcinoma of the left ureter with gland, bladder and lung metastases. The necropsy disclosed enlargement of both ureters. The mother had died of mammary cancer. A review of the literature brought to light thirty-eight similar cases and three or four more uncertain ones. Hydronephrosis is often the only sign. Hematuria and pain are uncertain. The finding of tumor cells in the urine is a good diagnostic sign, but rather uncommon.

Primary Prostatic Tuberculosis.—Tuberculous involvement of the prostate may often be the first sign of a quiescent genital tuberculosis. Many such cases are treated as rebellious gonorrheal manifestations. Primary prostatic tuberculosis is rare. The case reported exhibited a typical association of the gonococcus and tubercle bacillus. The first opens the way to the latter, and its presence misleads the diagnostician. The prognosis is always serious.

Archivio di Scienze Biologiche, Naples

10: 401-517 (Dec.) 1927

Energy Spent in Human Labor. G. Viale.—p. 401.
*Substance in the Pancreas That Increases Blood Sugar. G. Martino.—p. 408.
Pancreatic Function and Glycemia. G. Martino.—p. 438.
Tonomiotic Action of Proteins. F. Bottazzi.—p. 456.

Substance in the Pancreas Increasing Blood Sugar.—With Sordelli and Deulofeu's method, Martino has extracted from the pancreatic juice and pancreas of dogs a substance which increases blood sugar in the rabbit. This action may be preceded or followed by hypoglycemia. The pancreas of normal dogs sometimes yields a substance endowed purely with the power of decreasing blood sugar. Fasting dogs seem to yield larger quantities of such substances. The substance that increases blood sugar resists the action of pancreatic

enzymes, but not that of putrefying agents. It is active when administered subcutaneously and by mouth. When kept in sealed vials, the substance is still active at the end of fifty-one days.

Gaceta Médica de México, Mexico City

58: 733-792 (Dec.) 1927

Exophthalmic Goiter. A. A. Loaeza.—p. 733.
*Intestinal Parasites. J. Solorzano Morfin.—p. 742.
*Absence of Rickets in Mexico. M. A. Torroella.—p. 765.

Intestinal Parasites in Mexico.—Ascaris stands first among intestinal parasites in Mexico. Many patients die of intoxication, choking or intestinal obstruction or perforation. Chenopodium oil is the most effective remedy against this parasite. Oxyuris and Trichiuris come next in prevalence. Higueron is much in favor against pinworms, and Ribas' thermal method has proved successful against whipworms. Most deaths in Mexico are from diarrhea. Centipedes, ticks and other insects are often found among the parasites expelled. *Hymenolepis nana*, amebas, *Giardia* and *Trichomonas* are also widespread. The association of two or three parasites is not uncommon. In the only case with four parasites known to Solorzano Morfin, hookworm, *Ascaris*, *Trichiuris* and *Hymenolepis* were represented.

Absence of Rickets in Mexico.—Rickets does not exist in Mexico. Torroella looked in vain for its stigmata among 6,000 children. The rachitic pelvis is likewise unknown. In the discussion Carrillo supported this statement as a result of 4,900 examinations in children and 500 in primiparae. Torroella thinks the richness in lime of Mexican foods and the prevalence of breast feeding as well as the abundant sunlight are preventive factors.

Revista de la Asoc. Médica Argentina, Buenos Aires

40: 759-984 (Nov.-Dec.) 1927

Extrapyramidal Syndrome. A. S. Marotta.—p. 759.
Palpation of Liver. R. Lorenzo.—p. 796.
Epidemiology and Prevention of Diphtheria. G. Aráoz Alfaro.—p. 811.
Biology of Cancer Cell. A. H. Roffo.—p. 834.
Splenectomy in Leukemia. P. Escudero.—p. 851.
Significance of Suppurating Tonsillitis. D. Massa.—p. 886.
*Renal Tuberculosis. J. Salleras and A. von der Becke.—p. 935.

Renal Tuberculosis in Argentina.—Of 1,724 patients with urologic lesions cared for in Buenos Aires, 278, i. e., 16.12 per cent, had renal tuberculosis. The percentage varied from 8.88 to 28 in different hospitals. Cases with hematuria predominating are rarer than cases with the chief symptoms in the bladder. Any spontaneous cystitis must be regarded as being tuberculous until proved otherwise. The early cases, apparently without bacilli, are the most interesting, as the others are diagnosed readily. Cystoscopy and catheterization are valuable aids. The prognosis is not bad if surgical treatment is applied promptly. In Buenos Aires the death rate from the operation varied from 0 to 50 per cent; the average was between 5 and 10 per cent according to the number of patients operated on. Salleras and von der Becke have not had any immediate surgical mortality for four years and only one late death from pulmonary tuberculosis. Some of their cases date back thirteen years. In an advanced case, three or four years must elapse before it can be considered cured.

Revista Médica de Barcelona

8: 565-659 (Dec.) 1927. Partial Index

*Esophageal Cancer. J. Lentini Díaz.—p. 568.
*Pulmonary Mycosis. C. Xalabarder.—p. 574.
Mediastinal Emphysema by Pulmonary Tear. F. Vázquez Limón and C. Pera.—p. 578.

Diagnosis and Treatment of Esophageal Cancer.—Out of 117 patients with esophageal lesions, ninety-seven had cancer. The age varied from 55 to 75. Most cases occurred in men. Fluoroscopy and roentgenography permit the diagnosis to be made in 95 per cent of cases. The earliest symptoms are dysphagia and constriction, at first without pain. The prognosis is most serious. Radium may help, and if the size of the tumor contraindicates its use, bougies may be tried. Gastrotomy must be reserved as a last resort.

Pulmonary Mycosis by a New Penicillium.—In a case of pulmonary disease, tubercle bacilli could not be found. Pure cultures were, however, secured of a new penicillium of three different types. All the symptoms subsided after treatment with potassium iodide. In making the diagnosis in such cases, one must always remember the association of lower molds and tubercle bacilli in the same sputum.

Revista Médica del Rosario, Rosario de Santa Fe

17: 587-645 (Nov.) 1927. Partial Index

Salivary Calculi. R. Babbini.—p. 587.
*Physiology of Spleen. C. Viale.—p. 604.

Rôle of the Spleen in Chlorosis, Blood Coagulability and Arterial Pressure Regulation.—As splenectomized animals stand low atmospheric pressures poorly, examinations of applicants for licenses as aviators should include an inquiry into the functional condition of the spleen. The anemia that develops in dogs and guinea-pigs after removal of the spleen eventually terminates in chlorosis. Electrical stimulation of the spleen increases the rate of blood coagulation. Experiments in dogs showed that the spleen is responsible for the increase in coagulability after bleeding. The spleen also has a rôle in the regulation of arterial pressure, but its field in this direction is rather limited.

Revista Médica del Uruguay, Montevideo

30: 705-766 (Dec.) 1927

Synthalin in Diabetes. B. Varela Fuentes and P. Rubino.—p. 705.
*Pituitary Solution and Uterine Tears. H. García San Martín.—p. 730.
Pseudochylic Ascites. J. García Otero and O. Vidovich.—p. 735.
*Acriflavine in Obstetrics and Gynecology. D. Martínez Olascoaga.—p. 741.
Duodenal Drainage in Typhoid. A. E. Gaggero.—p. 749.
*Puerperal Septicemia. J. C. Estol.—p. 752.

Misuse of Solution of Pituitary as Cause of Uterine Rupture.—A death is reported from uterine rupture apparently due to an injection of solution of pituitary by a midwife. In a Montevideo obstetric service in 1924, out of twenty-three cases of ruptured uterus, four were caused by the unwise use of solution of pituitary.

Acriflavine in Obstetrics and Gynecology.—In six cases of cervicitis, gonococci were still present in the discharge after fifteen intravenous injections of acriflavine. The treatment failed also in two cases of gonorrhea in men. However, in a pregnant woman with fever and presumed infection, the symptoms promptly subsided after intravenous treatment with acriflavine. It was also successful in several cases of puerperal fever. In fifty cases of cervical metritis during pregnancy, several of acute cervicitis and one of metritis, local treatment with acriflavine proved effective. If the cervix is enlarged and practically covered with nabothian glands, the pus must be expressed before treatment is started. The method is useless in old cases.

Intensive Serum Therapy in Puerperal Fever.—In several cases of puerperal septicemia, reported by Estol, recovery followed treatment with antistreptococcic serum (daily doses as high as from 200 to 400 cc.; a total dosage of from 1,000 to 1,200 cc.). In most cases it is best to associate an autovaccine (2,000 to 3,000 millions of germs per cubic centimeter) with this treatment, to prevent visceral implantation of the streptococcus.

Archiv für Psychiatrie und Nervenkrankheiten, Berlin

82: 439-618 (Jan. 10) 1928

*Hand Structure and Psychosis. A. Friedemann.—p. 439.
Tabes, Paralysis and Cerebrospinal Syphilis in Veterans. P. Jolly.—p. 500.
Mastic Reaction; Emanuel and Rosenfeld's Modification. K. Samson.—p. 517.
*Primary Carcinoma of Brain. T. von Lehoczky.—p. 527.
Examinations with Takata-Ara Reaction. E. Meyer.—p. 567.
Mechanical Record of Verbal Examinations of Patients. E. Zwirner.—p. 571.
*Etiology of Multiple Sclerosis. O. Kauffmann.—p. 576.

Hand Structure and Psychosis.—Among all the cases of psychosis examined by Friedemann, there was only one congenital deformity of the hand, a syndactylia. The results of the investigation show that there is a series of hand characteristics which, in general, are typical of the constitution of the patient. Changes of the hand habitus depend a great deal on the psychic equilibrium. Severe sweating of the skin

and changes in the type of blood supply are found in schizophrenics, and also in many normal subjects. In manic patients the hand is hard, in the same persons, in states of depression, it becomes softer and more yielding. The hand characteristics of schizophrenic patients and manic-depressive patients are schematically arranged.

Primary Carcinoma of the Brain.—Lehoczky describes a gelatinous, papillary carcinoma which rose from the choroid plexus of the fourth ventricle. The negative results of the complete necropsy indicate that this was a primary tumor, its localization and the finer histologic characteristics of the cancer cells point to the plexus epithelium as the site of origin. This case occupies a unique position on account of the great malignancy of the tumor. The histologic data are not a sufficient basis on which to make a diagnosis of primary plexus and ependyma carcinoma; the evidence of the primary appearance of the tumor and the demonstration of its local relations with the plexus or the ependyma are also required. On account of the lack of one of the criteria—the local relationship—and the small number of these observations, the authors reserve their opinion in regard to the cancer cells' developing from aberrant plexus cells.

Etiology of Multiple Sclerosis.—Kauffmann's blood examinations in seventy-three cases of multiple sclerosis resulted in the finding of the usual pseudospirochete. Inoculation of guinea-pigs, mice and monkeys with the blood and spinal fluid of sclerotic patients was undertaken for the purpose of observing the possible disease-producing effects. Most of the guinea-pigs injected died. Two showed spastic paraparesis of the lower extremities and convulsions. The pathologic picture was limited to an encephalomyelitis which was histologically identical with guinea-pig paralysis. An experiment in the transmission of human poliomyelitis to guinea-pigs was successful and was confirmed by the histologic picture. Experiments in treatment of patients were undertaken. Colloidal metal solutions were used intravenously and intraspinally. Malaria inoculation was also tried. There were some apparent clinical improvements and some total failures.

Deutsches Archiv für klinische Medizin, Leipzig

158: 1-128 (Dec.) 1927

*Blood Platelets in Typhoid. E. Hartmann.—p. 1.
Blood Plasma Changes in Tertiary Syphilis with Positive Complement Fixation Reaction. K. Recknagel and V. Gaupp.—p. 9.
*Value of Gruber-Widal Reaction in Clinically Doubtful Typhoid or Dysentery. H. Bohnenkamp and H. Kliewe.—p. 16.
Urinary Acidity in Tuberculosis. P. Müller and H. Quincke.—p. 42.
Blood Buffering in Tuberculosis. P. Müller and A. Anthes.—p. 54.
Chlorine Metabolism in Tuberculosis. P. Müller and H. Quincke.—p. 62.
Action of Insulin in Diabetes Insipidus. L. Villa.—p. 69.
Mechanism of Action of Synthalin. F. Bertram.—p. 76.
Total Amount of Blood in Man Under Normal and Pathologic Conditions. S. Rusznyák.—p. 98.

Blood Platelets in Typhoid.—During the febrile stage of typhoid there is a very marked decrease in the number of the blood platelets. In the period of convalescence there is considerable thrombocytosis, which coincides with the genesis of the thrombosis. An increased inhibition of the function of the spleen and a functional change in the megakaryocytes is the cause of the origin of the platelet decrease. The origin of the thrombosis in the convalescent stage lies in inclination to agglutination, on the one hand, and in increase of the platelets, on the other hand.

Value of Gruber-Widal Reaction in Clinically Doubtful Typhoid or Dysentery.—From various tests made in four cases, Bohnenkamp and Kliewe deduce that the disappearance of a reaction within a few days in a certain group, in this case the typhoid group, with mounting of the titer in the other group is a useful and reliable means of differential diagnosis. In only one series of these not entirely typical disease pictures of typhoid and dysentery examined by Bohnenkamp and Kliewe, could a diagnosis be made and confirmed by the serologic tests. In another group, clinical diagnoses, certain in themselves, could be strengthened by considering the serologic tests in the diagnosis of a mixed infection of typhoid and dysentery. Without familiarity with the relations between the group agglutination and the so-called anamnestic reaction, the evaluation of repeated serologic tests is not possible; indeed, the serologic reactions are only misleading for the clinical diagnosis. In view of the cases reported, the authors believe that the dependability of the Gruber-Widal reaction in typhoid-dysentery differential diagnosis should be pointed out.

Deutsche Zeitschrift für Chirurgie, Leipzig

207: 305-428 (Jan.) 1928

Healing and Treatment of Wounds. P. Clairmont.—p. 305.
*Glossopharyngeal Neuralgia. A. Fonio.—p. 325.
Myoma of Mammary Gland. F. Driak and H. Sternberg.—p. 352.
*Fatal Pulmonary Embolism. F. O. Höring.—p. 360.
Experimental Studies in Pneumothorax. H. Tsunoda.—p. 380.
Hereditary Osteo-Arthropathy with Recessive Heredity. H. R. Schinz and A. Furtwaengler.—p. 398.
Increased Bone Growth Due to Lymph Stasis. A. Spinner.—p. 417.
Luxation of Fibula. F. Hogenauer.—p. 422.
Two Cases of Lung Tumor Successfully Operated On. S. Sato.—p. 424.

Glossopharyngeal Neuralgia.—The glossopharyngeal bears a close resemblance to the trigeminal nerve in the structure of its roots and ganglions and in the symptomatology of its neuralgia. The pain may begin at the base of the tongue or in the tonsils or pharynx, and may radiate to the ear, eye, or the angle of the lower jaw of the same side. The attacks of pain resemble those of trigeminal neuralgia in their intensity, mode of onset, duration, remission and intervals. The attacks may be provoked by speaking, coughing, chewing, swallowing, drinking, or by pressure on the tonsillar area or at the lower angle of the jaw. The etiology, as in the case of the trigeminus, is unknown. The excised nerve in the author's case did not show any pathologic change. The aneurysmal dilatation of the common carotid artery present in his case was a probable factor, because of irritation of the internal carotid nerve, the carotid plexus, the corda tympani and the petrosal ganglion. Ligation of the artery had the effect of preventing attacks for some time. The third ligation, however, failed to arrest further attacks. Exeresis of the nerve as close to the jugular foramen as is possible is the simplest and most rational procedure. Neither alcohol injection of the ganglions nor their removal as practiced in trigeminal neuralgia should be attempted, because of the proximity to the jugular vein, the vagus, and the spinal accessory nerve within the jugular foramen. Intracranial dissection of the root as practiced by Adson is so formidable a procedure, that it should be reserved for stubborn cases only, or for those in which recurrence after exeresis takes place. An important aid in the differential diagnosis consists in cocainizing the tonsillar area and the base of the tongue. If an attack takes place in spite of this, then it is due to the trigeminal and not to the glossopharyngeal nerve.

Increase in Cases of Fatal Pulmonary Embolism and Its Cause.—In 3,248 necropsies Höring found 131 cases of fatal pulmonary embolism. Fifty-one occurred in cases operated on, five in obstetric cases, ten after trauma and sixty-five in various nonsurgical conditions. When following an operation, it occurred most frequently on the third or fourth day. Circulatory disturbances were noted more often than infection. The occurrence of pulmonary embolism after trauma was not as rare as was previously supposed. Thrombosis is the result of various influences affecting the colloidochemical balance of the blood, of which the most important is infection. A less important factor is obesity. The increase in the number of cases is to be attributed to some extent to the trauma resulting from certain methods of treatment.

Deutsche Zeitschrift für Nervenheilkunde, Leipzig

100: 1-286, 1927

*Migraine with Eye Symptoms. F. Schultze.—p. 1.
Classification of Diseases. A. Hoche.—p. 34.
Relationship Between Artistic Creation and Mental Disease. G. Stertz.—p. 40.
Pelizaeus-Merzbacher Disease. A. Bostroem.—p. 63.
*Pathogenesis of Alcoholic Mental and Nervous Disease: Blood-Spinal Fluid Barrier. A. Hauptmann.—p. 91.
Associated Movements of Homologous Muscle Groups in Unilateral Voluntary Movements as Congenital and Familial Characteristic. H. Heldmann.—p. 111.
Reflex Stiff Pupils and Chronic Severe Alcoholism. K. Peter.—p. 131.
Reversible Relations Between Sympathetic and Sensory Systems. H. Pette.—p. 143.

Decerebrate Rigidity Theory of Proprioceptive Posture and Movement Reactions. G. Schaltenbrand.—p. 165.
Speed in the Reaction of Muscles to Electric Stimulus. H. Stein.—p. 203.
Speed of Reaction of Sensory System to Electric Stimulus. H. Stein.—p. 221.
*Diseases of Nervous System in Leukemia. E. Trömner and F. Wohlwill.—p. 233.
Cases of Periarteritis Nodosa. W. Weigeldt.—p. 260.

Migraine with Eye Symptoms.—Schultze reports his own case of migraine which began with unilateral flimmer scotoma and in youth was associated with vomiting and aphasia. The latter symptom frequently appears now at an advanced age, although in much slighter degree. The headaches are less frequent and less severe in advanced age but the flimmer scotoma is much more frequent. Often the attacks are brought on by the effects of light. In middle age there were a few years free from attacks. The author discusses the etiology, pathogenesis and treatment of migraine, flimmer scotoma and dazzling.

Pathogenesis of Alcoholic Mental and Nervous Disease: Blood-Spinal Fluid Barrier.—Alcohol intolerance depends on an excessive and alcohol tolerance on a slight or too slight permeability of the barrier between the blood and spinal fluid. Hauptmann bases this statement on the permeability quotients in twenty cases of alcoholism, in which patients with intolerance, delirium and Korsakow psychosis showed increased permeability. "Habituation" to poisons may originate in a tightening of the blood-spinal fluid barrier (probably also of the separate cell membrane). Neuritic symptoms are present chiefly in patients with increased permeability. This aids the comprehension of the pathogenesis of neuritis as a radicular process.

Diseases of the Nervous System, Especially of the Cranial Nerves, in Leukemia.—In leukemia the nervous system and its sheaths are frequently affected. Infiltrates in the dura and the epidural tissue are quite constant. They are found in the cranial nerves and spinal nerve roots. In the majority of cases no striking clinical symptoms are caused. These may appear, if the dural infiltrates are large enough to evoke pressure symptoms, or if the nerve fibers are sympathetically affected from the penetration of the infiltrate into the nervous tissue. There may, then, be symptoms of paralysis of single cranial nerves or of all the cranial nerves or a clinical picture showing involvement of all the nerves of the base of the brain, that is, either pseudobulbar paralysis or multiple cranial neuritis. The dura within the gasserian ganglion and the latter itself are often penetrated by infiltrates, usually without causing symptoms. There are infiltrates in the pia and in the adventitious lymph sheaths of the vessels of the central nervous system, under certain circumstances with penetration into the ectodermal tissue.

Mitteilungen a. d. Grenzgeb. der Med. und Chir., Jena

40: 583-713, 1928

Biologic Effect of Thyroid Substance and of Blood from Thyroid Arteries and Veins. O. Hoche.—p. 583.
Etiology and Symptomatology of Vesico-Ureteral Reflex. R. Andler.—p. 592.
*Thyroid Function and Iodine Content. B. Breitner.—p. 618.
Carpenter's Hand. H. U. Billich.—p. 638.
Diagnosis of Insufficient Ileocecal Valve. W. Tönnis and P. Eichler.—p. 648.
*Effect of Direct Massage of Heart on Restoration of Circulation. K. Thiel.—p. 656.
*Experimental Liver Necrosis. F. Fischler and A. Hjärre.—p. 663.
*Carcinomatous Ulcer of Stomach. F. Fleischer, L. Goldhaber and H. Landau.—p. 699.

Thyroid Function and Iodine Content.—Iodine is found in the thyroid gland in relatively large amounts. Its sources are: respiratory iodine brought from the pulmonary circulation by the arteries, nutritional iodine in the venous blood from the right side of the heart, and iodine derived from body tissues. Breitner has investigated the iodine content of blood taken from the thyroid arteries and veins, and from the brachial vein in various types of thyroid disease. His theoretical conception is that the thyroid gland of exophthalmic goiter is functionally weak, while that of colloid goiter is functionally strong, the former being poor, the latter rich in iodine. Irritation of the sympathetic nervous system has a retarding effect on the production and absorption of iodine, irritation of the parasympathetic has the effect of increasing iodine absorption. This hypothesis seems to explain the effect of iodine therapy in genuine exophthalmic goiter and in a hyperactive colloid struma. Colloid itself is regarded as being reserve material requiring for its functional completion addition of iodine. At least one of the functions of the specific gland secretion is iodization of the material before it is absorbed by the blood and lymph. His investigations have shown that in cases of clinically indifferent struma, in other words of resting thyroid gland, no iodine was present in the arterial or in the venous blood. In cases of genuine exophthalmic goiter the iodine was diminished. In hyperactive glands not of the exophthalmic goiter type, increased quantities of iodine were found. There appear to be two types of hyperthyroidism, a primary hyperthyroidism and exophthalmic goiter. The essence of the first is increased absorption of secretion. Its histologic substratum is that of an activated colloid struma, its peculiar characteristic is that it is rich in iodine. The activation of the secretion can result from exogenous or from endogenous causes. The second type is a polyglandular disease, the thyroid gland itself exhibiting a histologic picture of parenchymal hyperplasia. There is here an increased demand on a gland already poor or entirely deficient in reserve material. Proper therapy can be deduced from this conception; namely, iodine is indicated in a hyperactive and is contraindicated in a resting gland. Iodine given in a case of exophthalmic goiter produces a rapid and striking improvement which is lost as soon as the gland passes into the resting stage, and operative removal of the thyroid tissue is required to complete the cure.

Effect of Direct Massage of the Heart on Restoration of Circulation.—Direct massage of the heart is said to have three effects, mechanical stimulation of the heart muscle, emptying of the dilated heart, and artificial restoration of the circulation. Two conditions are imperative if the circulation is to be restored: the filling of the coronary arteries and supply of blood to the centers of the medulla oblongata. Thiel was not able to accomplish this in his animal experiments. The blood could not be made to reach the capillaries of the general circulation. He concludes that the effect of direct massage of the heart is limited to muscle stimulation.

Experimental Liver Necrosis.—Hjärre found that liver necrosis is the cause of death in the so-called puerperal hemoglobinuria of cattle. Closer analysis showed that this necrosis is caused by the absorption of proteins from the involuting uterus in the presence of relative carbohydrate deficiency. It was experimentally established that liver necrosis is easily produced in chloroform narcosis in the presence of carbohydrate deficiency and that it does not take place even after repeated chloroforming of well nourished animals with a high glycogen content of the liver. It was further shown that sensitization of animals by protein injections further predisposed to liver necrosis. The severest forms were produced when the organism was deprived of carbohydrate by starvation and by administration of phlorhizin. The cause of liver necrosis and of so-called postanesthetic death is attributed to the effect on hepatic function, with resultant injury from the secreting activity of the organ. Chloroform is only one of the damaging factors. Glycogen deficiency of the liver appears to be the most important.

Carcinomatous Ulcer of the Stomach.—The possibility that a certain number of ulcers are cancerous from the beginning is admitted. Such ulcers may develop in persons who have not had any previous gastric disorder. Anatomically these ulcers differ from simple peptic ulcers, which they resemble closely, in that they have a somewhat wider base, more like a callous peptic ulcer; the edges are harder, and, what is very important, the stomach serosa over the involved area is entirely smooth. The process begins in the mucosa, involves some of the muscularis, but is not accompanied by an inflammation of the peritoneal covering. The clinical symptoms resemble closely those of a peptic ulcer. The seasonal influence is absent, there is less pain, the symptoms complained of are fulness, distention, belching and loss of appetite. Chemical analysis of the gastric contents shows hypersecretion with some increase in mucus and fairly high acidity. The authors have not seen a case with anacid hypersecretion.

Blood and pus are rarely present in early cases. Occult blood in the feces is a frequent but not a constant observation. The authors believe that an increase in leukocytes in the early stages is very suggestive of carcinoma. They found an increase up to 8,500 and to 10,000 in a stage in which breaking down as the cause of leukocytosis was out of the question. Roentgenograms do not show anything definite, except slight irregularity in the gastric outline due to local infiltration. It is very difficult, if not impossible, to recognize the cancerous character of an ulcer at operation. Lymph gland enlargement may be due to inflammation as well as to malignancy. For this reason, the operative procedure should be as radical as is possible even in the presence of an apparently simple ulcer. In their opinion, stomach resection is the proper procedure and an unmodified Billroth II the operation of choice.

Monatsschrift für Kinderheilkunde, Leipzig

37: 289-586 (Dec.) 1927. Partial Index

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Encephalitic Syndrome in Course of Infectious Diseases. W. Reimold. —p. 336.
Infant Feeding. L. Langstein.—p. 365.
Question of Dependence of Clinical Form of Tuberculosis on Virulence of Bacilli. Opitz and Sherif.—p. 384.
*Calmette's Protective Inoculation Against Tuberculosis. H. Buschmann. —p. 393.
Pathologico-Anatomic Changes in Animals Infected with Calmette's Bacillus. H. Chiari.—p. 402.
*Calmette's Tuberculosis Immunization: Experimental Study. E. Nobel and A. Solé.—p. 408.
Experimental Anthracosis and Tuberculosis. A. Nohlen.—p. 415.
*Tuberculous Allergy and Measles. F. Goebel and R. Herbst.—p. 424.
Chemism and Hematology of Herter's Infantilism. Fanconi.—p. 454.
Congenital Pyloric Stenosis. Monrad.—p. 473.
*Glycogen Content of Liver in Fatal Diseases of Childhood. E. Burghard. —p. 492.
Experimental Studies in Congenital Syphilis. R. Fischl, B. Epstein and F. Breini.—p. 497.
*Malaria Treatment of Congenital Syphilis. K. Kundratitz.—p. 501.
*Id. I. Hescheles.—p. 509.
Involvement of Conjunctiva in Congenital Early Syphilis. F. Weiss.— p. 517.
Cellular Resistance to Infection. E. Stettner.—p. 530.
*Scarlet Fever Prophylaxis and Treatment. B. Johan.—p. 536.
*Dick's Scarlet Fever Theory: Experimental Study. F. von Gröer.—p. 558.
*Reliability of Dick Test for Scarlet Fever Immunity. S. Progulski and F. Redlich.—p. 564.
Streptococcus Toxins and Antitoxins. S. Meyer.—p. 568.

Alimentary Fever.—Finkelstein believes the existence of a fever that is under the influence of diet is proved, also that this fever depends on internal dehydration. The lack of water may be relative, caused by excess of protein or of sodium chloride in the diet. He holds that alimentary fever is a metabolic, not a bacterial fever; the influence of bacteria in febrile dyspepsias is limited to the production of the diarrhea and vomiting which bring about the dehydration.

Calmette's Protective Inoculation Against Tuberculosis.—Between 1925 and the end of July, 1927, Buschmann inoculated eighty-nine new-born infants with B C G. All the infants developed normally, no injurious effects from the vaccination were seen, none of the children have died, none have shown any signs of tuberculosis. Thirty of the children have been under observation for two years. All of these were revaccinated at the end of the first year. Fifteen were kept away from a tuberculous environment for the first year and then returned to their (open) tuberculous family; the other fifteen were in a tuberculous environment during the entire period. In only a small percentage of the cases was the tuberculin reaction positive.

Calmette's Tuberculosis Immunization: Experimental Study.—Of twenty-four guinea-pigs inoculated with B C G by the intraperitoneal route, four, which received 5, 10, 15 and 80 mg. of B C G, respectively, died of a resulting tuberculosis. From the organs of two of these animals and of another, which was killed thirty-three days after the injection, tubercle bacilli were obtained in pure culture. These bacilli, injected intraperitoneally in doses of 10 mg., proved virulent. The pathologic examinations that established tuberculosis as the cause of death were made by Chiari, who reports the results separately. Nobel and Solé regard the B C G strain as distinctly virulent and explain its seeming avirulence when administered by mouth on the assumption that most of the organisms are promptly excreted.

Tuberculous Allergy and Measles.—Goebel and Herbst found that measles convalescent serum, injected intramuscularly, causes fading of a cutaneous tuberculin reaction at the height of its development. A percutaneous tuberculin test applied either simultaneously with such an injection or two days later brought about a much weaker reaction than occurred without the injection. The experiments confirm the clinical observation of the activation of tuberculosis by measles.

Glycogen Content of Liver in Fatal Diseases of Childhood.—A surprisingly small amount of glycogen was found by Burghard in the livers of forty-four children, dead from various diseases. The liver was examined immediately after death. In only one third of the cases was the value above 1 per cent; in one ninth, above 2 per cent. High grade glycogen impoverishment was found not to be peculiar to conditions with intoxication. The destruction of glycogen is to be ascribed chiefly to the death agony. Children who died suddenly had a much larger supply than those in whom the death process was protracted.

Malaria Treatment of Congenital Syphilis.—Kundratitz holds that malaria treatment is indicated in congenital syphilis, (1) with involvement of the central nervous system; (2) with stubbornly positive Wassermann reaction in the cerebrospinal fluid, whether or not there are clinical symptoms; (3) in all late forms if specific treatment is without effect; (4) in cases without clinical symptoms but with pathologic blood reaction not influenced by other treatment. He found the spirochete in the blood during the last of the series of malaria attacks in three out of seven cases. He believes that the malaria treatment results, first, in increased transudation, by which the spirochetes are washed into the blood, or, at the least, their nests in the tissues are broken up. They then become accessible to attack on the part of the natural defense forces of the body, which are activated in the second stage of the treatment, and on the part of the usual antisyphilitic remedies, which should always be administered after the recovery from malaria. His method is to inject from 3 to 5 cc. of blood from a malaria patient and allow from eight to ten attacks. He saw no bad effects. The children recovered quickly.

Malaria Treatment of Congenital Syphilis.—Hescheles treated eleven children, from 2 to 8 years old, with congenital late syphilis by malaria followed by arsphenamine. The best results were obtained in the cases with positive Wassermann reaction in the cerebrospinal fluid. Florid parenchymatous keratitis was unfavorably influenced by the malaria. Treatment in early childhood offers the best prospects.

Scarlet Fever Prophylaxis and Treatment.—Johan accepts the streptococcus origin of scarlet fever, but sees no proof of the existence of a specific streptococcus. He lays stress on the rôle of the individual disposition and considers that the fact that this is taken into account in the Dick immunization constitutes its true advance over the Gabritschewsky vaccination. His researches show that the therapeutic action of a serum corresponds to its value in scarlet fever antitoxin units. Since the strength of serums varies, dosage should not be reckoned in cubic centimeters. He measured the antitoxin units by determining the amount of antitoxin necessary to reduce the size of a certain Dick reaction by one half. The mortality of his severe cases treated with immune horse serum was 6.9 per cent when the treatment was intravenous, 13.0 per cent when it was intramuscular. The mortality in cases of the same severity treated with convalescent serum was 4.5 per cent with intravenous injection. The mortality in cases of this type that were not treated with serums was 20.2 per cent. The mortality was largely influenced by the size of the dose. Among patients who received only 1,500 units, there were three times as many deaths as among those who were given 4,500 units. It is important that serum treatment be begun early; after the fifth day of illness it is almost wholly ineffective. Convalescent serum is more active than immune horse serum in late cases.

Dick's Scarlet Fever Theory: Experimental Study.—Using various serums and toxins, Gröer investigated the influence

of intramuscular injection of serum on the Dick reaction, determined before, simultaneously with and after the serum injection. The influence of milk, horse serum, etc., was similarly studied. He concludes that the Dick reaction is an allergy reaction, that Dick toxin is not a toxin in the exact meaning of the word. There is actually no such thing as the pseudo-Dick reaction and the control test with heated toxin is therefore superfluous. The significance of the positive or negative Dick reaction must be interpreted differently than at present. The so-called neutralization phenomena and the undoubted therapeutic action of scarlet fever serum is not referable to a specific antitoxin. The mechanism responsible is not yet clear, a specific inhibition of inflammation is probable. His conclusions, he points out, in no wise affect the value of modern scarlet fever prophylaxis, but they give it an entirely different interpretation.

Reliability of Dick Test for Scarlet Fever Immunity.—Progulski and Redlich applied the Dick test to children in two children's homes. Retested at the end of four months, thirteen of seventy-three children who were originally Dick negative had become Dick positive. Of the ninety children of another institution who were originally Dick negative, twenty-eight had become Dick positive at the end of fourteen months. Of 123 Dick positive children who were immunized with from 1,750 to 3,500 skin test doses in three injections, sixty-three reacted negatively, sixty positively after three months. Of twenty-two children who were given 8,000 skin test doses, nine reacted negatively after two months, thirteen were still positive. In a group of fifty children in whom an originally positive Dick reaction had been altered by treatment to a negative reaction, only nineteen preserved their negative reaction at the end of eleven months. In a second group of children who had kept their positive Dick reaction for three months after the last injection of the protective treatment, twenty-nine still reacted positively after eleven months, but in twenty-four a negative reaction was now obtained. The author noted that the control reaction of the Dick test does not correspond to the analogous reaction of the Schick test. The true reaction to native scarlet fever toxin and the pseudoreaction are hardly to be differentiated. Previous intramuscular injection of scarlet fever immune serum sometimes prevents the appearance of a reaction to heated scarlet fever toxin. The behavior of heated scarlet fever toxin in relation to neutralization by immune serum is often the same as that of native scarlet fever toxin. These are points of difference from the Schick pseudoreaction. The longer the scarlet fever toxin is exposed to heat, the fewer are the pseudoreactions and the greater is the percentage of the positive reactions. A uniform procedure, is necessary if the confusion in the interpretation of the Dick test is not to increase.

Münchener medizinische Wochenschrift, Munich

75: 207-248 (Feb. 3) 1928. Partial Index

"Blood Pressure Disease" and Its Treatment. G. Ganter.—p. 210.
*Illness and Death from Eating Fruit. W. Gros.—p. 212.
Character and Psychologic Mechanism of Drug and Alcohol Addiction. B. Hahn.—p. 215.
Origin of Infectious Diseases. O. Gleichmann.—p. 218.
Operation for Acute Appendicitis Complicated by Influenza and Pneumonia. H. von Seemen.—p. 221.
Treatment of Chronic Bronchitis and Complicating Asthma. Veilchenblau.—p. 222.
Phlebostasis Apparatus. A. Josephi.—p. 226.

Illness and Death from Eating Fruit.—Uninjured, ripe fruit can cause illness and death if it is introduced insufficiently masticated and in excessive amounts into a stomach not accustomed to receiving much fruit. According to Gros' experiments, cherries and gooseberries, which swell up in water much more than other kinds of fruit, are especially dangerous. The tendency to disturbances is increased by the individual disposition, the special sensitiveness of the child's intestinal apparatus and hot weather. Among the disturbances caused, gastritis, enteritis, gastro-enteritis, acute fermentation, and dyspepsia are less a menace to life than acute gastric dilatation and alimentary paralytic ileus. The reasons for sickness from eating unripe, moldy or spoiled fruit, and from taking large quantities of water with fruit, are discussed.

Wiener klinische Wochenschrift, Vienna

41: 149-184 (Feb. 2) 1928. Partial Index

Etiology, Prophylaxis and Serum Therapy of Infectious Diseases. R. Kraus.—p. 149.
Pericardial Adhesions. O. A. Rösler.—p. 153.
*Lumbago. S. Erben.—p. 156.
Liver Diet and Blood Condition. J. Pal.—p. 158.
Urologic Experience with the Albrecht-Ulzer Halogen Solution. F. Fuchs.—p. 160.
*Narcotic Effects of Smoking Tobacco Mixed with Potassium Chlorate. S. Dontas and P. Zis.—p. 161.
Blood Groups and Forensic Medicine. K. Meixner.—p. 163.

Lumbago.—The most frequent cause of lumbago is lumbar strain. The disease involves one or more joints and may extend to the sacro-iliac articulation. This region is then painful on pressure, and thickenings are frequently found outside the muscle substance, which can be verified in the radiograph. The most effective treatment is rest in bed for from eight to fourteen days in a well-warmed room and with cutaneous counter-irritation. The author uses some suitable ointment or an alcoholic fomentation (linimentum capsici or mustard plaster) placed over the lumbar region with some source of heat over it for two or three hours every day for about two weeks. Warm full baths are to be avoided. A flannel binder should be worn during the attack and for a month afterward. If the pain is not gone after two weeks, protein therapy is begun.

Narcotic Effects of Smoking Tobacco Mixed with Potassium Chlorate.—The smoking of tobacco mixed with potassium chlorate has an intoxicating effect. In their experiments, Dontas and Zis mixed from 1.5 to 2.5 Gm. of potassium chlorate with a pipeful of tobacco.

Acta Dermato-Venereologica, Stockholm

8: 227-311 (Dec.) 1927

Keratoderma Following Gonorrheal and Nongonorrheal Joint Diseases. W. Lojander.—p. 227.
Histology of Unilateral Sebaceous Nevus (Epitheliomatosus) of the Head. S. Ostrowski.—p. 255.
*Hemorrhagic Encephalitis Occurring During Treatment with Neoarsphenamine. H. C. Gjessing.—p. 268.
Marriage of Syphilitics: Scandinavian Legislation. Schindler.—p. 275.
*Meinicke's Third Reaction (Latest Modification) and Vernes' Reaction. H. Boas.—p. 286.
Vegetative Nervous System in Fox-Fordyce's Disease. T. Chorazak and S. Ostrowski.—p. 298.

Hemorrhagic Encephalitis Occurring During Treatment with Neoarsphenamine.—A man severely infected with syphilis received four injections of neoarsphenamine in doses beginning with 0.15 Gm. and rising to 0.6 Gm. On the third day after the fourth injection, he developed suddenly the classic symptoms of hemorrhagic encephalitis or "serous apoplexy." The clonic convulsions were succeeded by a state of coma, which lasted several days. Under treatment with epinephrine, the patient recovered and the neoarsphenamine injections were continued without mishap, but always with simultaneous administration of epinephrine.

Meinicke's Third Reaction and Vernes' Reaction.—Boas tested 1,205 serums for both the latest modification of Meinicke's third reaction and the Wassermann reaction. The results with the Meinicke test proved but little inferior to those with the Wassermann test. The difference between the results of the two reactions was seen chiefly in cases of latent syphilis. Here the Wassermann reaction was positive in forty-two serums in which the Meinicke reaction was negative; while in only two serums was the latter reaction positive when the former was negative. The reading of the Meinicke reaction is much too difficult for the practicing physician. Vernes' reaction ("syphilimetry") was similarly tested against the Wassermann reaction in 1,003 serums. The Wassermann reaction proved slightly more sensitive in primary syphilis and latent congenital syphilis, and decidedly more sensitive in tabes, general paralysis and latent syphilis. In secondary and tertiary syphilis the results with both methods were equal. Vernes' method gave particularly good results in the control cases. Moreover, in some cases of latent syphilis, the Vernes' reaction pointed more or less strongly to syphilis, when the Wassermann was negative.